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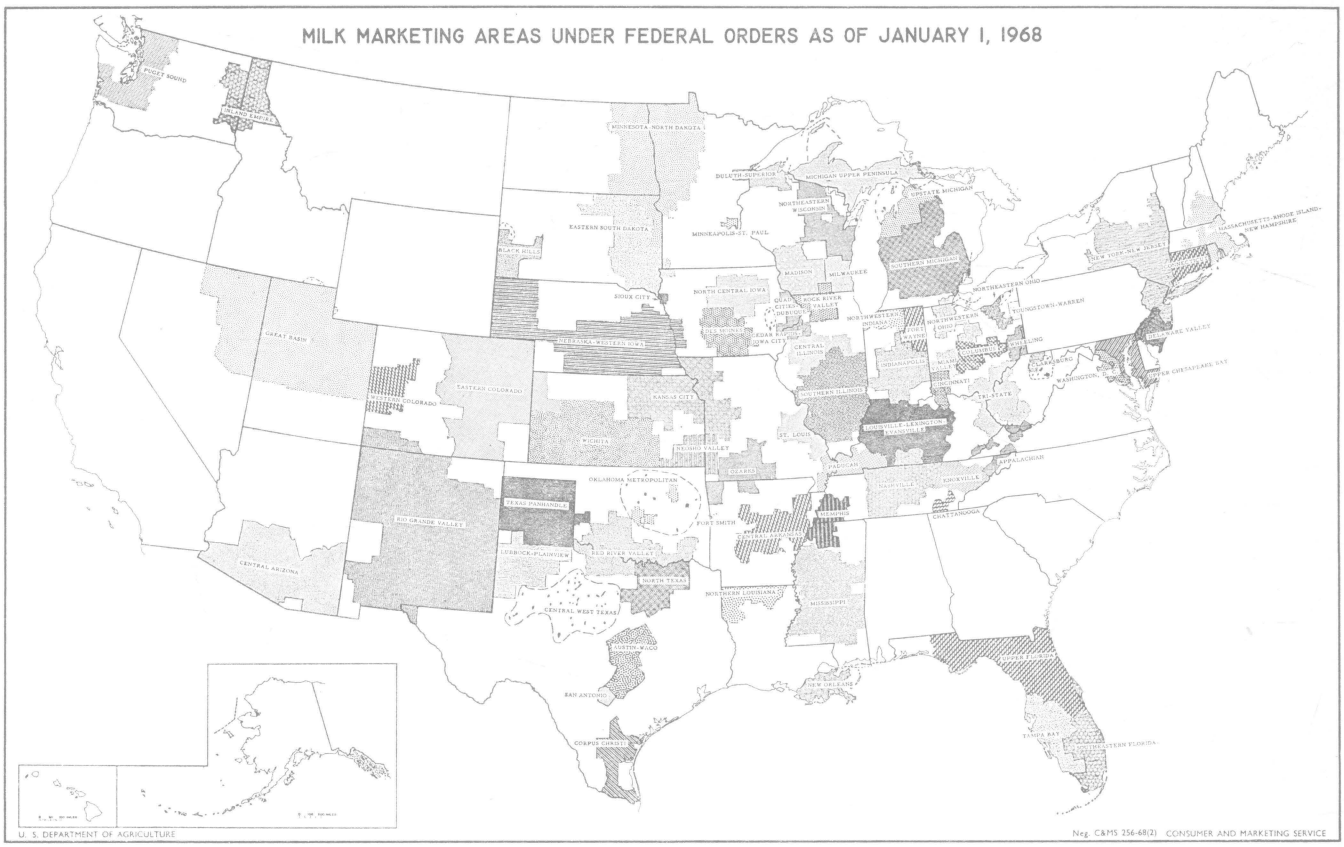
Adjusting Federal Milk Order Market Areas

With Special Reference to Markets In and Near Ohio

ROBERT E. JACOBSON



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ADJUSTING FEDERAL MILK ORDER MARKET AREAS
With Special Reference to Markets In and Near Ohio

ROBERT E. JACOBSON[1]

INTRODUCTION

The primary purpose of a Federal milk marketing order is to promote orderly marketing conditions throughout a market by implementing a stabilizing system of classified pricing. Increasingly, the question of what area the relevant market comprises is becoming more complicated. The U. S. Department of Agriculture historically has adhered to two criteria in the definition of a marketing area. These are: (1) all of an area where the same milk dealers compete with each other for sales of milk, in association with (2) the area where such milk must meet essentially the same sanitary inspection standards.[2]

These criteria essentially parallel standard textbook discussions which refer to a market as a closely interrelated group of buyers and sellers.

In the regulation of fluid milk markets, definition of the market area in precise geographic terms becomes a critical issue because the designated market area is the basic means for identifying what milk is to be priced and pooled.

In recent years, a number of major technical and economic innovations have been taking place in fluid milk marketing which have had the effect of eroding individual market independence. In turn, an intensification of relationships among fluid milk markets, both in procurement and distribution, has been taking place. Some of these changes are:

1. Substantially increased mobility of fluid milk, both in bulk and packaged form, on a highly efficient basis.
2. Increasing concentration of the fluid milk industry in terms of large volume automated processing centers, together with business operations on a multi-plant, multi-market basis.
3. Closer and more formal relationships among milk marketing cooperatives as they strive toward a more effective bargaining base.
4. Expanded and overlapping milkshed areas caused by reduced production in some supply areas together with increased demands in metropolitan milk markets.
5. Continued deemphasis of local Grade A health ordinances as barriers to milk movement.
6. High proportion of fluid milk being sold through supermarket chain stores, with resulting implications in private labeling and brand indifference, intense competition for wholesale accounts, and vertically integrated processor-distributors.

All of these changes and more have served to substantially expand the areas in which many handlers distribute milk. Data on movements of packaged fluid milk among Federal order markets offer one measure of this expansion. In the 7-year period from 1959 to 1966, monthly sales of packaged milk moving from one market to another market increased from 99.2 million lb. to 308.7 million lb. or by 211 percent.[3]

One major effect of these changes in milk marketing is to establish a substantial basis for expanding the defined marketing area for regulation purposes under the Federal milk order program. The dairy industry, through cooperatives, handlers, and the Dairy Division, Consumer and Marketing Service, U. S. Dept. of Agriculture, generally has been responsive to these changes. Expansions and consolidations of Federal milk order marketing areas have been occurring regularly in recent years. Recent major marketing area decisions on the Chicago market and the Eastern Ohio-Western Pennsylvania market underline the official recognition which has been taken of these marketing adjustments.

In summarizing these movements, the Director of the Dairy Division recently made the following statement: "With respect to larger geographic milk markets, the continuing expansion of Federal orders into previously unregulated areas and the merger of formerly separate orders testifies that the orders have been adapting to the fact that markets for fluid milk are rapidly becoming regional rather than local in

[1]Professor, Department of Agricultural Economics and Rural Sociology, Ohio Agricultural Research and Development Center and The Ohio State University.

[2]The Federal Milk Marketing Order Program. April 1968. Consumer and Marketing Service, U. S. Dept. of Agriculture, MB 27, p. 24.

[3]Movements of Milk In and Out of Federal Milk Order Markets. July 25, 1968. Dairy Division, Consumer and Marketing Service, U. S. Dept. of Agriculture.

scope. In the last 5 years, 18 separate orders have been merged to create 8 new markets and the areas of 24 orders were expanded to include formerly unregulated areas."[4]

OBJECTIVES

Two major questions regarding marketing area criteria and definition have arisen out of this new environment.

1. Do the present criteria for marketing area definition adequately encompass the relevant factors which must be recognized in implementing an orderly market?
2. What ultimate geographic limits in defining marketing areas appear to be desirable as the adjustment to regional marketing areas becomes more and more evident?

A third question, and one more precisely to the point of this study, is: In a region such as Ohio and immediately surrounding areas, where several Federal order milk markets are in close and constant relationship, what do the relevant criteria recommend in terms of defining an optimum marketing area (s)?

In attempting to answer this latter question, it is not intended that the substance of this report will adequately accomplish the same purposes as that of a hearing record. However, the evidence presented in this report is intended to suggest logical directions for the redefinition of marketing areas.

These are the three questions to which this study will be primarily addressed. The crucial question of pricing arrangements essential to the movement of milk within large marketing areas will not be analyzed as a part of this study.

MARKETING AREA CONSIDERATIONS

The legal authority for Federal milk market order regulation is found in the Agricultural Marketing Agreement Act of 1937 and this legislation provides some limited but specific references to the regulation area. As indicated in the discussion on marketing areas in the Nourse Committee Report, "The Act authorizes the issuance of orders for either *production* or *marketing* areas. In fact, orders to regulate the marketing of fruits and vegetables are issued under the same Act for specified *production* areas. It is significant also that in Section 608 (c) (11) (B) of the Agricultural Marketing Agreement Act, orders pertaining to milk were made an exception to the general requirement that orders 'shall be limited in their application to the smallest regional production areas or regional marketing areas . . . which the Secretary finds practicable . . .' Thus, the Act has imposed no direct limitation on the extent of marketing areas as defined in Federal milk orders. However, the Act is interpreted by the Department to require that milk marketing orders be issued for marketing areas in which the conditions of demand and supply are reasonably homogeneous."[5]

The conclusion by the Nourse Committee with respect to homogeneous demand and supply conditions is subect to interpretation. There is no explicit reference to this homogeneity criterion in the history of decisions on marketing areas. It would appear that to the extent homogeneity is recognized, it is done on an implicit basis in association with the criteria of sales area and uniform Grade A standards.

Freeman and Babb did an extensive review of marketing area decisions and basically concluded that encompassment of sales territory and uniform sanitary standards prevailed as the basic marketing area criteria for both newly promulgated areas and for area amendments.[6] The sales area measure is also one expressly used by Bartlett and Alexander in their earlier analysis of the acceptability of marketing areas.[7]

The first substantial recommended addition (beyond sales area and uniform sanitary standards) to marketing area criteria in recent years came in the Nourse Committee Report of 1962. In expressing its concern with the effects of "piece-meal regulation," the Committee in effect added the production area or milkshed to the standards for consideration in defining marketing area.[8] In spite of this recommendation, there does not as yet appear to be any explicit recognition of the production area as a basic measure of marketing area. For example, in two recent major marketing area decisions, there is very little development of marketing area evidence except with respect to the sales area and uniform sanitary standards measures. These decisions include the recommended decisions on the Chicago market (and five other markets) and the final decision on the Northeastern Ohio, Greater Youngstown-Warren, and Greater Wheeling markets.[9]

However, in his recent statement on marketing areas, the Director of the Dairy Division indicated

[4]Forest, H. L. March 28, 1968. Adapting the Federal Order Program to Newer Products and Larger Markets. Presentation at 23rd Midwest Milk Marketing Conference, The Ohio State University, Columbus.

[5]Nourse, E. G., et. al. June 1962. Report to the Secretary of Agriculture by the Federal Milk Order Study Committee, U. S. Department of Agriculture. Part II, Sec. 2, pp. 1-2.

[6]Freeman, R. E. and E. M. Babb. June 1964. Marketing Area and Related Issues in Federal Milk Orders. Purdue Univ., Res. Bull 782, pp. 10-12.

[7]Bartlett, R. W. and W. H. Alexander. August 1953. The Practice of Establishing Federal Order Marketing Areas as Related to Economic Theory. Univ. of Illinois, Mimeo AE 2957.

[8]Nourse, E. G., et. al. Op. cit. Part II, Sec. 2, pp. 10-11.

[9]Chicago, 32 F. R. 21054, 12/30/67; and Northeastern Ohio, Greater Youngstown-Warren, and Greater Wheeling, 33 F. R. 3466, 2/28/68.

that the policy in the Federal order program is to give increasing recognition to production areas as an element in specifying the regulation area. His statement was : ". . . . Nor need you be reminded that bulk tanks have released dairy farmers from the necessity of shipping their milk to the nearest metropolitan market. This flexibility afforded to dairy farmers by bulk cooling tanks, coupled with better roads and equipment, is forcing us to give more and more consideration to competition among dairy farmers for markets as a factor to be considered in shaping marketing areas. It wasn't long ago when we relied almost exclusively on areas served by a common group of milk dealers as the factor determining the scope of a particular marketing area."[10]

Marketing area definition has been evaluated in numerous other instances and some of these warrant additional comment. In one analysis directed primarily at Federal order markets in Ohio, it was recognized that the Nourse Committee recommendations and other similar recommendations on market area boundaries could have a logical consummation in establishment of a national marketing order for fluid milk. This analysis went on to state, ". . . . neither a national order nor its proponents consider the many institutional arrangements which have led to the present proliferation of separate orders. . . . . An improved system of market orders would maintain price alignment and provide effective partial regulations. The boundaries of markets would depend on the location of members represented by individual cooperatives, the location and ownership of cooperative controlled surplus disposal facilities, the existence of unified producer support and of coordinated producer marketing programs, as well as the distribution patterns of handlers."[11]

In two relatively recent decisions on market consolidations for two of the markets under study, overlapping distribution areas were the primary basis for positive decisions, although competition in procurement was also recognized as a basic consideration in one of the decisions. In the consolidation and expansion of the North Central Ohio and Toledo Federal order markets, the final decision emphasized the following statement: "The territory to be included in the marketing area under a merged order should be determined primarily by conditions of competition in the distribution of milk. The expansion should be limited to those localities which constitute primary distribution areas for the handlers now covered by the separate orders. Population movements and characteristics, the extent of distribution by Toledo and North Central Ohio handlers in relation to that of unregulated distributors and handlers under other Federal orders, and reasonable correspondence in quality and sanitation requirements assist in reasonably defining the aggregate area which should be included."[12]

The more explicit reference to procurement considerations in defining marketing area was included in the decision on merger of the Muskegon and Southern Michigan Federal orders. That decision carried the following statement: "The overlap of distribution and supply routes has progressed to the point that a separate Muskegon market for producers can no longer be distinguished. In this connection, there is strong competition between Southern Michigan and Muskegon handlers for supplies of milk . . . . By providing proportionate sharing among all producers of total Class I sales in the market, the merger will stabilize prices and eliminate much of the present price uncertainty connected with shifts of sales accounts back and forth between the markets. Under a merged order, there would be no decline in producer incomes attributable to the effects of intermarket competition at the resale level."[13]

Outside of the Ohio area, procurement was explicitly recognized in the merger decision on the St. Joseph and Greater Kansas City Federal order markets. That decision evaluated the procurement measure as follows: "The two markets have become so closely integrated in distribution and procurement operations that regulation under a single order is necessary to promote orderly marketing of milk within the area. Merger and expansion of the marketing areas would more nearly encompass the major sales territories of handlers in the markets and insure uniform pricing to producers of milk distributed throughout the area. . . . Under these conditions of close competition, shifts of Class I sales and producers from one market to another can cause sharp movements in the uniform price to producers."[14]

In these several decisions, there appears to be a slight pattern of considering only handlers' sales territories on questions of expanding marketing area, while decisions for merging two or more Federal order markets are also supported by detailed procurement and producer price considerations. This difference may not be an explicit policy of the U. S. Department of Agriculture but only a product of the fact that sales territory can be accurately defined before regulation, while producer prices, handler utili-

[10]Forest, H. L. Op. cit.

[11]Baumer, E. F. et. al. Oct. 1965. Changing Market Conditions: Implications for Ohio Dairy Marketing Cooperatives. The Ohio State University, A. E. 363, p. 81.

[12]Toledo and North Central Ohio, 29 F.R, 11/18/64.

[13]Muskegon and Southern Michigan, 30 F.R., 6/18/65.

[14]St. Joseph and Greater Kansas City, 31 F.R., 8/13/66.

zation, and sources of milk may not be accessible information until after regulation.

In a detailed review of certain legal questions confronting the Federal Milk Marketing Order Program, recommendations have previously been advanced for a regional marketing area structure.[15] The thrust of the marketing area discussion in this legal analysis is: ". . . . the Secretary has developed four . . . specific criteria: (1) similarity of sanitary regulations, (2) similarity in the general milkshed supply area, (3) competition among the same milk distributors, and (4) the historical development of the market.

"It is perhaps not surprising that no marketing area definition promulgated under these criteria has ever been declared invalid. The cases that have been brought have either been defective procedurally or have failed to prove that the designation was in violation of law. Nor would it seem possible successfully to challenge a marketing area definition, even if it didn't strictly follow these criteria. The only objection any handler might have to the marketing area definition as such is that it extends Federal regulation to his business; but since that is the very purpose of the AMAA, he stands on very weak ground from the beginning and could succeed only if the definition were totally unreasonable. Indeed, the only firm legal ground for contesting a marketing area definition would seem to be that it does not include enough territory to effectuate the policy of the act. . . . .

". . . . the ultimate issue, then, is whether small local orders or larger regional orders will better effectuate the objectives of the AMAA. Under the policy set forth in AMAA Section 2, the principle of uniformity of costs to handlers laid down in AMAA Section 8c (5), and the original intent of Congress to limit restrictions on the free movement of milk to the minimum degree possible, it seems indisputable that regional orders are better suited to carry out the original purposes of the Act under modern milk marketing conditions. The revolutionary developments that have occurred in the milk industry since 1935 require a corresponding change in Federal milk orders if they are to keep pace with those developments without violating the principles which originally lay behind Federal regulation of fluid milk marketing. Part of this change was made following World War II, when partial regulation was instituted. The full change will not be completed, however, until regional milk orders are put into effect, once again to carry out the objectives and polices of the AMAA as they were originally enacted by Congress.

"The problems raised by intermarket relationships are never going to be solved by temporary measures based on unsound economic theory and the use of market restriction. The Secretary has recognized this fact and has begun to expand, consolidate, and interrelate milk orders on a regional basis in order to better effectuate the policies of the act. . . . Mere expansion of marketing areas and interrelation of prices is not sufficient to accomplish the desired results, however. It cannot eliminate the necessity for partial regulation nor can it help to distribute the surplus of the region more equitably among all the producers who contributed to it. Only by consolidation on a regional basis can these objectives be fully recognized."[16]

In addition to the marketing area criteria which have been recognized thus far, Stewart Johnson has suggested some additional measures in the context of a Federal order merger or non-merger decision. He listed these criteria as follows:[17]

"Among the economic criteria which are pertinent in determining continuation or merger of any of the 75 Federal orders now in effect are the following:

1. Extent of movement of packaged milk on routes
   a. From handlers under the order into marketing areas covered by another order or orders;
   b. From handlers under another order into the marketing area of the given order.
2. Uniformity of sanitary standards throughout the marketing area.
3. Size of order, with large orders usually more efficient to regulate and administer.
4. Extent to which surplus milk is manufactured by handlers under the order, rather than moved to handlers under other orders.
5. Adequacy of supply of milk from pool handlers and extent to which handlers under other orders are relied on for bulk milk to meet seasonal or other shortages.
6. Extent of friction in production areas—how much overlapping of milksheds—frequency of the shifting of plants between orders.
7. Degree to which the market covered by the order has distinctive characteristics of an "economic market," in seasonal price incentive plans, cooperative affiliation of producers, market organization and structure, promotional activities, etc., that differ from those in neighboring Federal order markets."

[15]Hutt, Peter Barton. April 1960. Restrictions on the Free Movement of Fluid Milk Under Federal Milk Marketing Orders. 37 U. Det. L. J. 525.

[16]Ibid, pp. 559-60, 602-604.

[17]Johnson, Stewart. June 1965. Criteria for Continuation vs. Merger of a Federal Milk Order. Univ. of Connecticut, Extension Report—Dairy Marketing, p. 2.

Johnson's recognition of size of order, surplus milk manufacturing, adequacy of supply, and distinctive economic characteristics provides additional dimensions to market area theory which have not generally been utilized on an explicit basis.

In this study, several market area criteria will be evaluated as to their relevance in formulating regulation (marketing) areas. The standard criteria of: (1) competing sales area and (2) uniform sanitary standards will be considered together with the increasingly recognized measure of procurement area relationships. In addition, criteria of: (1) general market organization, (2) acceptance and support by cooperatives, and (3) concentration of Class II product processing and distribution will be related to the marketing area problem. These latter criteria will be defined more precisely as they are brought into the problem.

In distinguishing between the so-called standard criteria and the additional marketing area criteria which have been specified, it should be recognized that these additional criteria have often (if not always) been considered on an implicit basis in marketing area decisions. One purpose of this report is to elevate these additional criteria of procurement, general market organization, acceptance and support by cooperatives, and Class II processing and distribution from their background role to a defined and explicit inclusion in marketing area theory.

One additional matter of fundamental relevance in definition of market area boundaries concerns the alternatives which may be utilized in expansion of a given marketing area. Historically, the U. S. Department of Agriculture has added to the marketing area of a Federal milk order by: (1) adding unregulated adjacent areas to the marketing area and/or (2) consolidating the marketing areas of two or more Federal orders in which marketing area criteria indicate the desirability of such consolidation.

It now appears that, in some instances, a third alternative should be available for market area expansion. This alternative would be one in which a portion of a regulated area would be transferred to another Federal order market. The rationale for doing this in a given situation would be that milk marketing conditions and relationships changed so much since the earlier marketing area formulation that, in the meantime, the particular marketing area portion under review had developed much closer relationships with another Federal order market. For example, over time, in a Federal order market with a sizable marketing area, the eastern half of the market may have developed closer relationships with markets further east while the western half of the market may have developed relationships to the west.

It would seem unfortunate and illogical to be restricted to previous marketing area decisions if, in fact, marketing area relationships had changed to this degree. This particular situation is relevant in a couple of instances in the markets being considered in this study. In one instance, for example, it could be argued that, on the basis of current and prospective marketing relationships, the northern half of X market should be added to a Federal order further north and the southern half of X market should be added to a Federal order to the south. Market X would then disappear as a separate entity.

Due to the current mobility of milk in procurement and distribution, together with the closing of plants and concentration of processing in very high volume operations, marketing relationships *within* a given marketing area have sometimes changed as much or more as relationships *between* markets. This has brought about the potential need for this third alternative in defining marketing area boundaries. Without this alternative available to the USDA in marketing area recommendations, a greater potential probably exists for either awkward consolidations or for lack of consolidation in some instances. Therefore, this alternative of partial area consolidations will be included in the analysis.

THE FEDERAL MILK ORDER MARKET SITUATION IN OHIO—1968

On July 1, 1968, three Federal order milk markets primarily associated with Ohio—Northeastern Ohio, Greater Youngstown-Warren, and Greater Wheeling—were consolidated as one market. At the same time, additional marketing areas primarily in Western Pennsylvania (Pittsburgh and Erie) were amended to this consolidation. Prior to this market consolidation and expansion, eight separate Federal order milk markets have had either all or most of their marketing areas located within Ohio. With this concentration of Federal order markets located in such a limited geographic area, relationships among these markets, both in procurement and distribution, have been very intense.

In addition, marketing relationships with four Federal order markets outside of Ohio exist to a significant degree. These markets include Southern Michigan, Fort Wayne, Indianapolis, and Louisville-Lexington-Evansville.

Selected market information for 1967 for the 12 relevant markets is set forth in Table 1. Numbers of producers in these markets ranged from 627 in the Wheeling market (most of these residing in Ohio) to 10,083 in the Southern Michigan market. Total amounts of milk pooled in 1967 ranged from slightly more than 150 million lb. to more than 3.4 billion lb.

Fig. 1.—Milk marketing areas under Federal orders, Eastern United States, January 1, 1968.

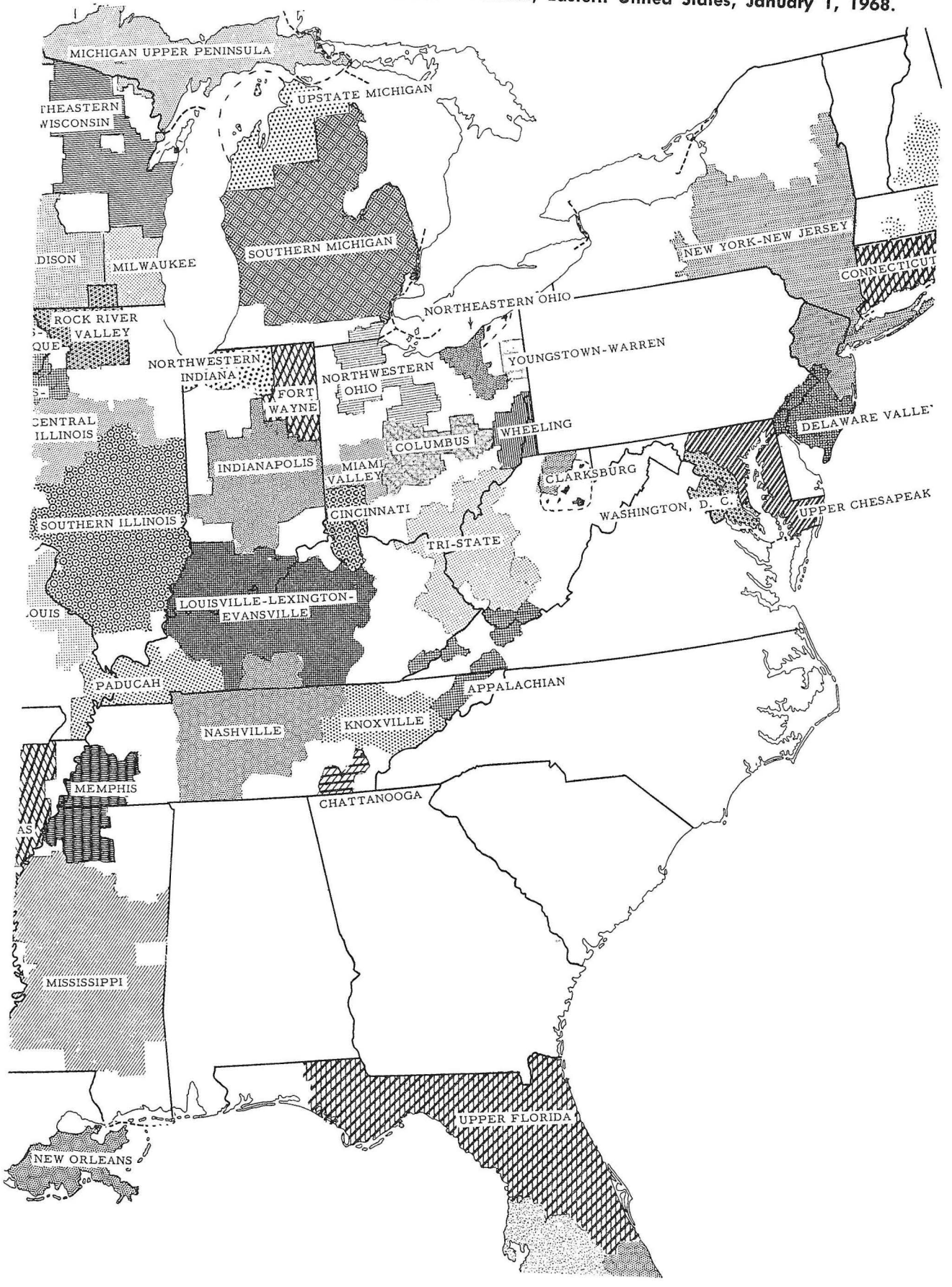


TABLE 1.—Selected Market Information for 12 Federal Order Markets, 1967.

Market	Average No. of Producers per Month	Total Lb. Milk Pooled in 1967 Producer Deliveries	Class I (Average) Utilization Percent	Class I Price* (Average)	Blend Price* (Average)
Wheeling	627	153,187,000	74.0	$5.76	$5.27
Tri-State	1,512	422,133,000	80.4	5.83	5.49
Southern Michigan	10,083	3,413,028,000	65.8	5.22	4.79
Northwestern Ohio	1,488	554,106,000	72.4	5.55	5.09
Northeastern Ohio	5,341	1,740,223,000	66.8	5.73	5.12
Columbus	1,572	542,483,000	77.9	5.68	5.26
Miami Valley	1,365	456,723,000	77.8	5.67	5.26
Cincinnati	2,885	712,523,000	70.0	5.77	5.20
Youngstown	769	241,506,000	76.6	5.83	5.37
Fort Wayne	815	273,818,000	71.0	5.46	5.01
Louisville-Lexington-Evansville	3,093	964,067,000	73.6	5.64	5.18
Indianapolis	2,719	894,479,000	76.6	5.53	5.14

*All prices are weighted; they do not include bulk tank premiums or negotiated premiums.

in the same two markets. Lowest reported Class I utilization was 65.8 percent in Southern Michigan, while the Tri-State market enjoyed an 80.4 percent Class I utilization. Federal order Class I prices ranged from $5.22 in Southern Michigan to $5.83 in both the Tri-State and Youngstown markets. Blend prices ranged from $4.79 in Southern Michigan to $5.49 in Tri-State.

The proximity of these several Federal order markets to one another is indicated by the marketing area map in Figure 1. The marketing areas shown are those defined as of June 1968. These do not reflect the boundaries of the new Northeastern Ohio-Western Pennsylvania Federal milk order market.

THE METHOD

A standard procedure for evaluating the several relevant Federal order markets in terms of defining marketing area boundaries more optimally is employed. Information was gathered directly from market administrators and managers of the milk marketing cooperatives in the 12 markets. In addition, a cross-section of information on handlers (scope of operations and intentions) was taken from a concurrent study on industry adjustments. The several selected marketing area criteria will be applied successively to these markets on the basis of the available information.

THE ANALYSIS

The first criterion to be related to the defined marketing areas for the 12 Federal order markets involved in this study is that of identifying territories where the same milk dealers compete for sales of packaged milk.

ENCOMPASSMENT OF HANDLERS' SALES TERRITORIES

The relatively extensive movement of packaged milk among the 12 Federal order markets has been recognized for some time. Three different observations, which together reflect intermarket relationships in the period from 1965 through 1967, are described in the following paragraphs. These observations include:

- An Ohio State University survey of packaged milk sales among markets as of November 1965.
- The annual Dairy Division report on inter-order movements of milk and cream as of October 1967.
- Detailed information on shipments of bulk and packaged milk among these 12 markets for the period October 1966 through September 1967, gathered specifically for this study.

The first and earliest of these three observations of intermarket relationships was directed to what were then the eight Federal order markets most closely associated with the state of Ohio. Results of that survey are reported in Table 2 and the survey report is quoted as follows:[18]

> "For the Ohio markets, we have recently used 'route packaged sales' moving outside and into the market area as a measure of expanded distribution areas and of closer relationships among the markets.
>
> "The Northeastern Ohio (Cleveland-Akron-Canton) market may be used to illustrate the meaning of Table 2. In November 1965, nearly

[18]Jacobson, Robert E. March 1966. Relationships Tighten Among Ohio Milk Markets. Coop. Ext. Serv., Econ Info. for Ohio Agr., No. 457, p. 1.

TABLE 2.—Route Packaged Sales Moving Outside and Into the Marketing Area, Nov. 1965.

Market	Total Outside Sales		Imported Packaged Sales	
	Pounds	Percent of Class I in Pool	Pounds	Percent Equivalent of Class I in Pool
Northeastern Ohio	12,953,102	12.7	1,024,685	1.0
Youngstown-Warren	3,500,000 (est.)	23.2	4,962,190	32.9
Wheeling	2,135,000	18.1	1,642,000	14.0
Tri-State	6,712,000	23.2	3,220,000	11.1
Columbus	8,182,000	21.9	2,548,000	6.9
Cincinnati	8,180,991	19.3	1,928,758	4.5
Dayton-Springfield	10,349,319	34.7	4,211,883	14.1
Northwestern Ohio	5,291,231	13.1	6,767,527	21.6

13 million lb. of packaged fluid milk were distributed outside of the defined marketing area by handlers regulated under the Northeastern Ohio Federal order market. This milk, which represented nearly 13 percent of the Class I sales in the Northeastern Ohio pool, was distributed either in nonregulated areas or in other Federal order markets such as Youngstown-Warren. At the same time, the equivalent of about 1 percent of the Class I milk in the Northeastern Ohio pool came in from handlers in other markets."

In analyzing the implications of this intermarket movement of milk in Ohio, several effects are specified, including an indirect reference to the need for market consolidation. These effects are described as follows:[19]

"The changes in milk distribution have enormous implications to milk producers and their marketing organization.

1. Packaged sales coming into a market from outside may displace local Class I sales to a point where local handlers of milk may no longer be able to stay in business. Related to this is the fact that regionally or nationally organized milk companies may close some of their smaller local operations and move packaged milk in from more efficient processing centers.
2. Historically, milk marketing cooperatives in Ohio have bargained for higher than the minimum Federal order prices on a market-by-market basis. Now it may be more difficult to do this because handlers in a local market who agree to pay higher prices to producers become that much more vulnerable to the competitive inroads of outside packaged milk. Thus, producers are apt to hurt themselves with such premiums by getting into a position of losing local Class I sales. It thus becomes necessary to bargain on a multi-market basis.
3. Class I prices had an average range of only 27 cents per cwt. among the eight Ohio markets in 1965, while blend prices had a 23-cent range. However, on a month-by-month basis, price differences showed much greater stress. Handlers are conscious of differences in Class I prices among markets as the cost of Class I milk to them is about 50 percent of their total operating cost. The prices in each market are determined to a considerable extent by recognizing local supply-demand factors. Since the increased intermarket movement of milk implies that the supply of milk for the local market is at least partially the supply for several markets, and similarly, the demand for milk in the local market is at least partially the demand in several markets, sound arguments can be advanced for more highly integrated price provisions among the several markets, either in Ohio or on a larger regional basis."

The second observation of intermarket relationships used the month of October 1966 as a measurement period. This information on movement of milk among regulated markets is in periodic reports of the Dairy Division. For the 12 markets under study, this information from the most recent such report is shown in Table 3.[20]

The data in Table 3 for each market are reported as a percentage of the total packaged disposition (Class I sales) for that particular market. For example, the total receipts from other markets for the Northwestern Ohio market indicate that fluid milk and cream coming into the Northwestern Ohio mar-

[19]Ibid., p. 2.

[20]Movements of Milk In and Out of Federal Milk Order Markets. Op. cit., p. 3.

ket as direct route sales and/or as bulk and packaged milk coming through local handlers amounted to 31.5 percent of the total packaged disposition of handlers regulated in Northwestern Ohio. At the same time, 14.2 percent of the total packaged disposition of Northwestern Ohio handlers was sold in other Federal order markets. The table shows that for the 12 markets, receipts from other markets ranged from the low of 4.1 percent in Northeastern Ohio to a high of 31.9 percent for the Wheeling market. Sales to other markets ranged from 3.5 percent for the Southern Michigan market to 23.6 percent for the Cincinnati market. Nine of the 12 markets had receipts above the 10 percent level and 8 of these markets had sales to other markets above the 10 percent level. The fact that these data go back to October 1967, coupled with the continuing increase in outer market distribution, indicates that relationships among these markets are more intense today than the data actually reflect. Even at the indicated levels of milk movement, however, it must be recognized that a first approximation of the 'encompassment of sales territory' criterion to these markets would definitely point to some consolidations.

The third observation of intermarket relationships in milk distribution reflects a recent 12-month average of milk sales among these markets. To gain such up-to-date information on milk movements, Federal order administrators for 11 of the 12 markets were asked to provide distribution data for the period October 1966 through September 1967. An additional dimension of these data was specific identification of the individual markets which any given market had sales to or receipts from. (This information was not included for Louisville-Lexington-Evansville because of an indication at the Cincinnati market that marketing area relationships and problems were not significant in that direction.)

Intermarket milk movements for the recent 12-month period are described successively for the several markets in the following pages.

Columbus: The Columbus marketing area currently comprises most of 11 counties, all located in central Ohio. The marketing area for Columbus, as well as the other markets in this study, is indicated in Figure 1. In the period October 1966 through September 1967, an average of 8,469,231 lb. of packaged Class I milk was sold monthly by Columbus regulated handlers on routes outside of the marketing area. This was nearly 23 percent of the Class I milk priced in the Columbus pool. Only 4 of the 19 handlers regulated in the market were engaged in such outside route sales and 1 of these handlers accounted for most sales of this type.

About 80 percent of the outside route sales was marketed in other Federal order markets while the remaining 20 percent was marketed in nonregulated areas. Of the monthly average of 6,673,815 lb. of Columbus packaged milk sold in other Federal order markets, movements were:

To N.W. Oho	50 percent*
To Tri-State	30 percent
To Miami Valley	12 percent
To Wheeling	4 percent
To Cincinnati	3 percent
Other	Negligible

*More precise data unavailable because less than three plants were involved.

TABLE 3.—Inter-Order Movements of Milk and Cream, Oct. 1967.

Market	Receipts from Other Order Markets*				Sales to Other Order Markets*			
	Total	Bulk	Packaged	Route	Total	Bulk	Packaged	Route
	Percent				Percent			
Tri-State	18.7	0.4	2.8	15.5	6.1	—	0.5	5.6
Southern Michigan	6.5	2.0	3.2	1.3	3.5	1.3	0.2	2.0
Northwestern Ohio	31.5	0.1	0.1	31.3	14.2	8.3	1.7	4.2
Northeastern Ohio	4.1	—	2.5	1.6	7.1	0.8	0.2	6.1
Columbus	11.2	0.2	0.5	10.5	18.8	1.0	1.2	16.6
Miami Valley	30.3	14.2	0.3	15.8	18.5	0.5	0.8	17.2
Cincinnati	14.8	2.6	2.8	9.4	23.6	3.2	—	20.4
Youngstown-Warren	26.1	0	—	26.1	9.6	0	—	9.6
Wheeling	34.9	6.1	1.3	27.5	13.0	†	1.3	11.7
Fort Wayne	16.7	2.5	0.7	13.5	20.7	0	10.4	10.3
Indianapolis	23.0	7.4	0.7	14.9	12.2	0.6	0.4	11.2
Louisville-Lexington-Evansville	7.4	†	0.2	7.2	17.4	2.5	0.6	14.3

*Receipts from and shipments to other order markets as percentage of total packaged disposition by handlers regulated in specified markets.
†Indicates quantity less than 0.1 percent.

Sales of bulk milk out of Columbus regulated plants were exclusively to surplus manufacturing plants. In addition to proprietary facilities, surplus milk was sold to cooperative operations at Miami Valley and Orrville (Northeastern Ohio).

During the 12-month study period, only a limited amount of packaged milk was received by Columbus handlers from plants in other regulated markets. At the same time, Columbus handlers marketed very limited amounts of packaged milk products through handlers regulated in other markets.

In regard to the amount of packaged route sales in the Columbus marketing area by handlers regulated in other markets, a monthly average of such sales of 3,577,024 lb. was recorded during this period. This is equivalent to about 10 percent of Class I milk priced monthly in the Columbus pool. Markets of origin for these route sales in Columbus were:

Cincinnati	50 percent
Miami Valley	18 percent
N.E. Ohio	16 percent
Indianapolis	10 percent
Wheeling	3 percent
N.W. Ohio and partially regulated handlers	Negligible

The Indianapolis shipments into Columbus have since stopped because of the loss of a military account by an Indianapolis handler. However, this sizable volume was subsequently picked up by a Cincinnati handler and more recently by a Columbus handler.

Cincinnati: The Cincinnati marketing area is currently comprised of four counties in southwestern Ohio plus six Kentucky counties. An average monthly volume of 10,357,038 lb. of packaged Class I milk was sold by Cincinnati handlers on routes outside of the marketing area during the October 1966 through September 1967 period. This was about 20 percent of the total Class I allocation in the Cincinnati pool for that period. For these outside route sales, milk moving into other regulated markets averaged 8,004,458 lb. monthly and milk sold in nonregulated areas averaged 2,325,580 lb. monthly.

Cincinnati packaged milk is sold into eight Federal order markets outside of Cincinnati. They are listed in order of decreasing volume as follows:

Miami Valley	33 percent (of the 8,004,458 lb. monthly average)
Columbus	24 percent
Tri-State	18 percent
N.W. Ohio	12 percent
Wheeling	6 percent
N.E. Ohio	5 percent
Louisville-Lexington-Evansville	1 percent
Clarksburg	1 percent

It is generally known that much of the outside sales of Cincinnati milk is associated with the large Kroger fluid milk processing plant located at Cincinnati. It is expected that the new Kroger plant at Detroit (which opened in the latter half of 1967) will reduce movement of Cincinnati milk to both the Northwestern Ohio and Northeastern Ohio markets.

During the 12-month period, a monthly average of nearly 2.5 million lb. of bulk milk was sold by Cincinnati handlers. Almost all of this moved at a Class II agreement as surplus milk for manufacturing.

Quantities of packaged milk coming from other order markets through Cincinnati plants averaged 974,947 lb. monthly and were thus relatively limited. The amount of Cincinnati packaged milk moving through plants in other markets (28,890 lb. monthly average) was negligible.

Five Federal order markets outside of Cincinnati had route sales in the Cincinnati marketing area averaging 2,683,230 lb. monthly or about the equivalent of 6.5 percent of Cincinnati's monthly pooled Class I sales. The five markets are:

Miami Valley	54 percent (of the 2,683,230 lb.)
Indianapolis	30 percent
Columbus	8 percent
Fort Wayne	5 percent
Louisville-Lexington-Evansville	3 percent

Miami Valley: The former Dayton-Springfield Federal order milk market became the Miami Valley market on September 1, 1967, when the marketing area was expanded to include all of Preble, Montgomery, Champaign, Clark, Miami, and Greene counties and most of Clinton County, all in Ohio. The new market area is contiguous on the west with the Columbus marketing area and contiguous on the south with the Cincinnati marketing area.

In the period from October 1966 through September 1967, a monthly average of 11,547,249 lb. of packaged Class I milk was sold by Miami Valley handlers on routes outside of the marketing area. (The expanded marketing area for September 1967 revealed only a limited decline in the total volume of outside sales, although the volume in nonregulated areas dropped sharply.) This quantity of out-of-area route sales was about 38 percent of the total Class I milk priced and pooled in the Miami Valley market.

Route sales into nonregulated areas averaged 7,774,123 lb. monthly and route sales into other Fed-

eral order markets averaged 3,773,126 lb. monthly. Five other Federal order markets were on the routes of Miami Valley handlers. These markets received Miami Valley milk according to the following order:

Cincinnati	38 percent (of the 3,773,126 lb. monthly)
Tri-State	32 percent
Columbus	16 percent
N.W. Ohio	11 percent
Fort Wayne	3 percent

Bulk sales of milk from Miami Valley plants to plants outside of the order averaged 2,374,455 lb. monthly. About one-fourth of this amount moved on a Class I allocation to markets including Northwestern Ohio, Columbus, Indianapolis, and Cincinnati. The supply-equalization facilities of Miami Valley Milk Producers Association account for this type of operation.

A monthly average of 354,286 lb. of packaged milk from other orders came through Miami Valley plants; a monthly average of 542,296 lb. of packaged milk moved from the Miami Valley market through plants in other markets. Both quantities are quite limited. Source markets included Columbus, Indianapolis, Louisville, Cincinnati, and Northwestern Ohio and destination markets included Columbus, Tri-State, and Northwestern Ohio.

Packaged Class I route sales in Miami Valley which originated in other markets averaged 3,567,561 lb. monthly or equivalent to about 12 percent of the Class I milk priced and pooled in the Miami Valley Federal order. Cincinnati and Columbus had substantial quantities moving to Miami Valley during the entire 12-month period. With the expanded marketing area as of September 1, 1967, Indianapolis sales jumped greatly and Northeastern Ohio milk showed up in the market for the first time. For most of the period, however, Cincinnati put about 75 percent of the monthly 3,567,561 lb. of packaged milk into Miami Valley and Columbus put in most of the other 25 percent.

Tri-State: The Tri-State Federal milk order marketing area includes the counties of Washington, Athens, Meigs, Gallia, Lawrence, Jackson, Scioto, and part of Pike County in southeastern Ohio, plus 8 counties in eastern Kentucky and 10 counties in western West Virginia.

During the period October 1966 through September 1967, an average of 5,562,661 lb. monthly of packaged Class I milk was sold by Tri-State handlers on routes outside of the marketing area. This was about 20 percent of the Class I milk priced and pooled monthly in the Tri-State market. About three-fourths of this quantity (3,949,801 lb. monthly average) was sold in nonregulated areas, while the remainder (1,612,810 lb. monthly average) was sold on routes in four other Federal order markets—Clarksburg, Wheeling, Appalachian, and Louisville-Lexington-Evansville. Sales in the Clarksburg market represented about 40 percent of the 1,612,810 lb. quantity moving to regulated markets, while sales in Wheeling represented one-third of this quantity. Route sales to Appalachian and Louisville-Lexington-Evansville were limited. Bulk sales of milk by Tri-State handlers to plants out of the pool were negligible (254,425 lb. monthly average) and only occasional movements of this milk received any Class I allocation.

Packaged milk from other order handlers coming through Tri-State pool plants averaged 672,844 lb. monthly. Source markets included Wheeling, Clarksburg, Appalachian, Miami Valley, Columbus, Louisville-Lexington-Evansville, Madison, and Ozarks.

Packaged milk moving from Tri-State handlers through plants in other order markets averaged only 91,414 lb. monthly. Destination markets included Wheeling and Louisville-Lexington-Evansville.

Packaged sales on routes in the Tri-State market which originated from plants in other markets averaged 4,356,134 lb. monthly during the 12-month period. This was equivalent to about 15 percent of the Class I milk priced and pooled in the Tri-State market. Source markets included Cincinnati, Miami Valley, Appalachian, Columbus, Northeastern Ohio, and a negligible amount from Wheeling. The proportions of the average monthly volume of packaged imports of 4,356,134 lb. coming from these markets were approximately as follows:

Cincinnati	33 percent
Miami Valley	27 percent
Appalachian	21 percent
Columbus	17 percent
N.E. Ohio	2 percent
Wheeling	Insignificant

Since the above data were recorded, the Foremost plant at Ashland, Ky., was closed (January 1, 1968). These sales now come out of the Foremost facility at Welch, W. Va. (Appalachian order). The effect of this is to significantly increase the route sales into the Tri-State market, particularly those sales coming from the Appalachian market. The Borden plant at Huntington, W. Va., was closed Nov. 1, 1967, and its sales have since shifted to the Borden plant at Columbus. Subsequently, a small portion of those sales were shifted to the Borden plant at Lexington in the Louisville-Lexington-Evansville market.

Northwestern Ohio: The Northwestern Ohio Federal order milk marketing area includes all of 11

counties and a portion of Sandusky County in Northwestern Ohio, plus parts of Monroe and Lenowee counties in Michigan. During the period October 1966 through September 1967, a monthly average of 5,089,071 lb. of packaged Class I milk was sold on routes outside of the marketing area. This was equivalent to about 15 percent of the Class I milk priced and pooled in the Northwestern Ohio pool.

About 72 percent (3,621,951 lb. monthly average) of the outside route sales moved into nonregulated areas, while 28 percent (1,467,120 lb.) moved into the marketing areas of four other Federal orders. These markets include Southern Michigan, Northeastern Ohio, Fort Wayne, and Columbus. Amounts of the 1,467,120 lb. moving to these regulated markets were approximately as follows:

Southern Michigan	65 percent
N.E. Ohio	23 percent
Fort Wayne	10 percent
Columbus	2 percent

An average of 2,437,262 lb. of milk monthly moved from Northwestern Ohio pool plants to plants outside of the market. About 23 percent of these outside bulk sales moved to Southern Michigan as a Class I allocation, while the greater share of the remainder which went as Class II moved to the Miami Valley market.

An average of 288,989 lb. of packaged milk was received monthly by Northwestern Ohio plants from plants in other orders. Source markets included Miami Valley, Southern Michigan, and Northeastern Ohio. At the same time, a monthly average of 162,156 lb. of packaged milk moved from Northwestern Ohio plants through plants in Southern Michigan, Northeastern Ohio, Miami Valley, and Columbus.

A substantial volume of packaged Class I milk moved on routes for direct sale in the Northwestern Ohio marketing area during this period. This quantity averaged 7,535,857 lb. monthly or the equivalent of about 23 percent of the Class I milk priced and pooled in the Northwestern Ohio Federal order market. Amounts of the 7,535,857 lb. of milk coming into Northwestern Ohio on routes from other markets are as follows:

Columbus	60 percent
Southern Michigan	17 percent
Cincinnati	11 percent
N.E. Ohio	8 percent
Miami Valley	3 percent
Youngstown-Warren	1 percent

Fort Wayne: The Fort Wayne marketing area includes a block of 12 counties in northeastern Indiana. The marketing area is bounded on the north and east by the Michigan and Ohio state boundaries respectively.

During the period October 1966 through September 1967, a monthly average of 2,465,801 lb. of packaged Class I milk was sold on routes outside the marketing area. This was about 15 percent of the Class I milk priced and pooled in the Fort Wayne market. About one-fourth of this milk (monthly average of 633,878 lb.) moved into nonregulated areas and three-fourths (monthly average of 1,831,923 lb.) moved on routes to other Federal order markets. Receiving markets included Cincinnati, Indianapolis, Northwestern Indiana, Southern Michigan, and Louisville-Lexington-Evansville.

Bulk sales by Fort Wayne handlers were exclusively surplus sales. This milk, which averaged 5,347,257 lb. monthly, was sold both to Fort Wayne handlers and to plants outside of the area.

Packaged milk from the Indianapolis and Milwaukee Federal order markets was received in plants of regulated Fort Wayne handlers in an amount averaging 225,816 lb. monthly. At the same time, Fort Wayne handlers shipped a monthly average of 1,163,610 lb. of packaged milk through plants in five markets including Northwestern Indiana, Indianapolis, Cincinnati, Southern Michigan, and Louisville-Lexington-Evansville.

Route sales of packaged milk coming into the Fort Wayne marketing area from other markets averaged 2,575,230 lb. monthly. This was equivalent to about 16 percent of the Class I milk priced and pooled in the Fort Wayne market. Source markets included Louisville-Lexington-Evansville, Indianapolis, Northwestern Indiana, Northwestern Ohio, Milwaukee, and Miami Valley.

Southern Michigan: The Southern Michigan market includes all or parts of 49 counties in lower Michigan.

In the period October 1966 through September 1967, a monthly average of 3,833,159 lb. of packaged Class I milk was sold outside of the Southern Michigan marketing area. This was only about 2 percent of the total Class I milk priced and pooled in the Southern Michigan Federal order. About 40 percent of the outside packaged sales moved to nonregulated areas. Almost all of the packaged milk moving to regulated markets was sold in either Northwestern Ohio or Upstate Michigan. The amount moving on routes to Northwestern Ohio averaged 1,229,060 lb. monthly (about 32 percent of Southern Michigan's outside route sales); the amount moving to Upstate Michigan averaged 1,048,180 lb. monthly (about 28 percent of the outside route sales). A small amount of packaged milk moved on routes from Southern Michigan to the Fort Wayne market during only 1 month of the period under study.

Bulk sales of Southern Michigan milk to plants not regulated in the Southern Michigan Federal order averaged 28,018,774 lb. monthly or about 10 percent of the total pooled milk. Almost all of these outside sales moved on a Class II agreement basis.

A monthly average of 4,712,206 lb. of packaged Class I milk was received in pool plants by Southern Michigan handlers from handlers in other Federal order markets.

At the same time, the amount of Southern Michigan packaged milk moving through plants in other orders was very limited. It averaged only 130,-896 lb. monthly and it moved to Northwestern Ohio, Upstate Michigan, and Indianapolis.

Five Federal order markets moved packaged milk directly on routes into the Southern Michigan marketing area. These route sales in Southern Michigan averaged 3,194,890 lb. monthly during the October 1966 through September 1967 period. The average monthly route sales from the markets were:

N.W. Indiana	939,479 lb.
N.W. Ohio	909,515 lb.
Fort Wayne	451,327 lb.

The Northeastern Ohio market had about 1.25 million lb. monthly route sales in Southern Michigan for part of the period but these sales stopped in May 1967. Indianapolis had an average of about 200,000 lb. of sales monthly in Southern Michigan but these sales stopped in August 1967. In total, less than 2 percent of the equivalent of the Class I milk priced and pooled in Southern Michigan came into the market as route sales from other markets.

Northeastern Ohio: The Northeastern Ohio marketing area (prior to the July 1, 1968, consolidation and expansion) included all or parts of 11 Ohio counties in the Cleveland-Akron-Canton area. During the October 1966 through September 1967 period, a monthly average of 13,488,202 lb. of packaged milk moved on routes from Northeastern Ohio handlers to sales points outside of the marketing area. This amount was about 14 percent of the total Class I milk in the Northeastern Ohio pool. About 50 percent of the outside route sales (6,843,267 lb. monthly average) went into nonregulated markets and the other 50 percent moved to seven different Federal order markets. The Youngstown-Warren market received more than half of the outside sales which moved into regulated areas. The average amounts of packaged milk moving to different regulated markets monthly were:

Youngstown-Warren	4,052,045 lb.
Southern Michigan	1,260,480 lb.*
N.W. Ohio	645,058 lb.
Columbus	621,683 lb.
Wheeling	503,314 lb.
Tri-State	63,564 lb.
Miami Valley	278,825 lb.†

*7-month average. Sales from a regional food store-milk processor stopped in May 1967.

†1-month average. Sales first reported in September 1967.

Bulk sales from Northeastern Ohio plants to plants not regulated in the Northeastern Ohio order averaged 19,037,300 lb. monthly during the October 1966 through September 1967 period. Almost all of this milk moved on a Class II agreement basis. Destinations included nonregulated plants as well as pool plants primarily in Northwestern Ohio, Tri-State, Wheeling, and Youngstown-Warren markets.

Packaged milk coming from other order markets through plants in Northeastern Ohio averaged only 137,686 lb. monthly and packaged milk moving from Northeastern Ohio plants through plants in other order markets averaged only 126,397 lb. monthly. Source markets included Northwestern Ohio, Columbus, and Youngstown-Warren; destination markets included the same three markets.

Packaged sales on routes in the Northeastern Ohio marketing area from other handlers averaged only 1,636,403 lb. monthly during this period. This was the equivalent of only about 1.5 percent of the Class I milk priced and pooled in the Northeastern Ohio market. Handlers regulated by the Youngstown-Warren Federal order accounted for nearly two-thirds of these route sales imports. Nearly one-third came in from Cincinnati handlers, while Northwestern Ohio and Wheeling accounted for the balance.

Youngstown-Warren: The Youngstown-Warren marketing area is currently comprised of parts of three counties in northeastern Ohio. An average monthly volume of 4,371,503 lb. of packaged Class I milk was sold by Youngstown handlers on routes outside of the marketing area during the October 1966 through September 1967 period. This was about 29 percent of the total Class I allocation in the Youngtown pool for that period. For these outside route sales, milk moving into other regulated markets averaged 1,166,660 lb. monthly, while milk sold in nonregulated areas averaged 3,204,843 lb. monthly.

Packaged milk from Youngstown is sold into three Federal order markets outside of Youngstown. They are listed in order of decreasing volume as follows:

N.E. Ohio	70 percent (of the 1,166,660 lb. monthly average)
N.W. Ohio	15 percent
Wheeling	15 percent

During the 12-month period, a monthly average of 2.5 million lb. of bulk milk was sold by handlers in Youngstown. Most of this milk went into surplus milk for manufacturing at a Class II price.

Packaged milk coming from other order markets (20,000 lb. monthly average) was negligible. The amount of Youngstown packaged milk moving through plants in other markets averaged 424,740 lb. monthly and was thus relatively limited.

Only two Federal order markets outside of Youngstown had route sales in the area. Their sales averaged 4,270,917 lb. monthly and were about 27 percent of Youngstown monthly pooled Class I sales. The two markets are:

N.E. Ohio	95 percent (of the 4,270,917 lb.)
Wheeling	5 percent

Greater Wheeling: The Wheeling marketing area is currently comprised of parts of six counties in eastern Ohio plus four West Virginia counties. An average monthly volume of 2,135,291 lb. of packaged Class I milk was sold by Wheeling handlers on routes outside the marketing area during the October 1966 through September 1967 period. This was about 23 percent of the total Class I allocation in the Wheeling pool for that period. For these outside route sales, milk moving into other regulated markets averaged 1,264,628 lb. monthly, while milk sold in nonregulated areas averaged 870,663 lb. monthly.

Wheeling packaged milk is sold into five other Federal order markets outside of Wheeling. The Federal order at Clarksburg receives more than half of this milk, with the rest going into Youngstown, Columbus, Tri-State, and Northeastern Ohio.

During the 12-month period, Wheeling handlers sold a monthly average of 1,752,160 lb. of bulk milk. Almost all of this milk moved at a Class II agreement as surplus milk for manufacturing.

One handler operating plants in both the Tri-State and Wheeling markets does some processing at each plant for the other plant. Thus, a negligible amount of packaged milk moves into Wheeling and out of Wheeling on a "through plant" basis.

Six Federal order markets outside of Wheeling had route sales in the Wheeling marketing area averaging 2,698,494 lb. monthly or the equivalent of 29 percent of Wheeling's monthly pooled Class I sales. The involvement of these six markets is as follows:

N.E. Ohio	18 percent (of 2,698,494 lb.)
Youngstown-Warren	8 percent
Tri-State, Cincinnati, Columbus and Clarksburg	74 percent

Indianapolis: The Indianapolis marketing area is currently composed of 34 counties in central Indiana. An average monthly volume of 8,186,939 lb. of packaged Class I milk was sold by Indianapolis handlers on routes outside of the marketing area during the period October 1966 through September 1967. This was about 14 percent of the total Class I allocation in the Indianapolis pool for that period. For these outside route sales, milk moving into other regulated markets averaged 5,422,143 lb. monthly, while packaged milk sold in nonregulated areas averaged 2,764,796 lb. monthly.

Indianapolis packaged milk is sold in 11 other Federal order markets but the Louisville-Lexington-Evansville market is the main target for these route sales. Other markets are recorded as follows:

Louisville-Lexington-Evansville	35 percent (of the 5,422,143 lb. average)
Fort Wayne	5 percent
Others*	55 percent

*Others include Central Illinois, Cincinnati, Columbus, Miami Valley, Quad-Cities-Dubuque, Rock River Valley, Southern Michigan, Southern Illinois, and Northwestern Indiana.

During the 12-month period, a monthly average of 10,199,056 lb. of bulk milk was sold by Indianapolis handlers. All of this milk moved at a Class II agreement as surplus milk for manufacturing.

Quantities of packaged milk coming from other order markets through Indianapolis plants averaged 71,418 lb. monthly and was amost negligible. The amount of Indianapolis packaged milk moving through plants in other markets averaged 1,118,266 lb. monthly.

Five Federal order markets outside of Indianapolis had route sales averaging 10,578,822 lb. monthly in the Indianapolis marketing area. This was the equivalent of about 17 percent of monthly pooled Class I sales in Indianapolis. The five markets include:

Southern Illinois	21 percent (of the 10,578,822 lb. monthly)
Louisville-Lexington-Evansville	19 percent
Milwaukee, N.W. Indiana, Fort Wayne	60 percent

Summary of Distribution Relationships: The data on movements of milk for the 11 markets for the period October 1966 through September 1967 are consistent with the two earlier observations and reflect the continued increases in intermarket movements of milk. As a summary of the extent of such relationships in milk marketing for these 11 markets,

TABLE 4.—Monthly Average of Route Sales Moving Outside and Into the Marketing Area, 11 Federal Order Markets, Oct. 1966-Sept. 1967.

Market	Class I Milk Sold on Routes Outside of Marketing Area as Percent of Class I Milk in Pool	Route Sales in the Marketing Area Originating in Ohio Markets as Percent Equivalent of Class I Milk in Pool
	Percent	Percent
Columbus	23	10
Cincinnati	20	6.5
Miami Valley	38	12
Tri-State	20	15
Northwestern Ohio	15	23
Fort Wayne	15	16
Southern Michigan	2	2
Northeastern Ohio	14	1.5
Youngstown-Warren	29	27
Wheeling	23	29
Indianapolis	14	17

Table 4 repeats the information by markets on percent of Class I milk sold outside of the marketing area and the amount of route sales in a market which originated in other markets.

As indicated in Table 4, each of the markets except Southern Michigan sold a rather significant portion of its total packaged milk on routes outside of the marketing area. At the same time, each of the 11 markets except Southern Michigan, Northeastern Ohio, and to some extent Cincinnati was receiving into the market rather substantial quantities of milk on routes originating from other markets. On the basis of these data, if the criterion of where handlers compete for sales of packaged milk dominated the determination of marketing area boundaries, it is clear that some types of marketing area expansion and/or consolidation would be in order.

UNIFORM SANITARY STANDARDS

It is generally recognized that lack of uniformity in sanitary standards among markets is very minimal at the present time and that market areas, therefore, are not limited in a practical way by various Grade A requirements. Widespread adoption of the U. S. Public Health Service recommendations by state and local health departments, extensive implementation of the Interstate Milk Shippers Program, and general employment of reciprocity arrangements between markets have all served to erode sanitary standards as a significant criterion for market area definition. This is particularly true in Ohio, where a statewide uniform Grade A inspection law has been in effect since July 1, 1966. The Ohio regulation, which conforms to and adjusts automatically with recommendations of the U. S. Public Health Service, makes two key points relative to free flow of milk. These include:

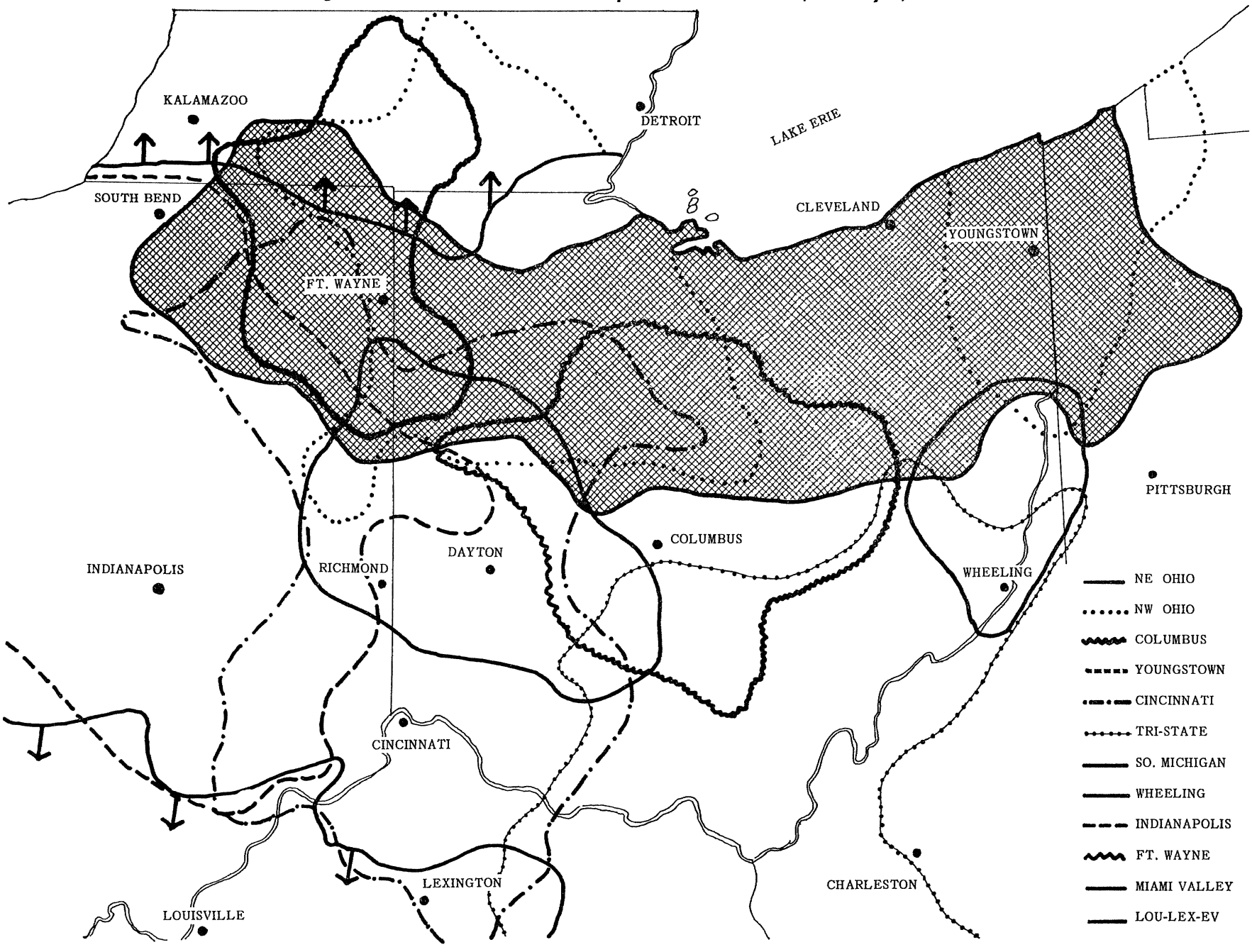
1. ". . . . Milk and milk products produced and processed under supervision of an approved health district in Ohio may be sold in all political subdivisions of the state. . . ."
2. "Milk and milk products entering Ohio may be sold in all political subdivisions in Ohio; provided they are produced, transported, processed, and otherwise handled under regulations which are substantially equivalent to . . . the Ohio Sanitary Code and have been awarded a milk sanitation compliance and enforcement rating . . . provided further, the responsible governmental agency extends the same rights and privileges to plants licensed in Ohio."[21]

The obvious effect of these regulations is that no arbitrary limit is posed on what a given market's radius of operation might be. The comparability of Ohio regulations with those in surrounding states is emphasized in the decision on the new Eastern Ohio-Western Pennsylvania market, where direct cognizance is taken of the differences between Ohio and Pennsylvania Grade A regulations.

The situation is described as follows: "While the sanitary inspection standards vary slightly in various parts of the proposed marketing area, there apparently have been no practical limitations on the movement of milk throughout this area. The states of Ohio and West Virginia reciprocate on health approvals. The state of Pennsylvania and the Pennsylvania county of Allegheny, which utilize different inspection standards, have no reciprocity arrangements on inspection requirements with Ohio and West Virginia. However, many Ohio producers and a

[21]Milk Regulations. State of Ohio Department of Health, Public Health Council, Milk and Milk Products, Chapter HE-23, pp. 23-24.

Fig. 2.—Procurement area relationships for the 12 markets, January 1, 1968.



number of Ohio plants have Allegheny and/or Pennsylvania health permits. It must be concluded that the health requirements throughout the proposed marketing area are not so different as to be an impeding factor in the adoption of a single regulation for the area."[22]

For the 12 markets involved in this study, it must be concluded that uniform sanitary requirements and reciprocity exist to a degree which establishes no practical limits on the movement of milk. The situations for Michigan, Indiana, and Kentucky relative to Ohio do not begin to resemble those differences implied between Ohio and Pennsylvania. Therefore, it must be concluded that sanitary standards do not differ sufficiently and are not enforced in a discriminatory manner which would serve to define market boundaries. In an overall sense, it would seem that recognizing uniform sanitary standards as a major criterion in defining marketing areas is becoming archaic and generally has no practical significance.

PROCUREMENT AREAS

Procurement areas are necessarily becoming increasingly important considerations in defining marketing areas. This is due in part to the greater mobility of milk in procurement through bulk assembly. In the milksheds of the 12 markets in this study, however, decreasing density and volume in milk production in the historic milkshed area are probably even more important factors. Increasingly, markets are expanding the perimeters of their milkshed boundaries and, in so doing, are moving into direct competition for producer milk in overlapping milkshed areas. One measure of the extent of adjustment the milksheds of these 12 markets have experienced in recent years is found in the following 5-year comparison of total milk production in the six states involved.

State	Total Milk Production (Billion Lb.) 1962	1967	Percent Change
Ohio	5,441	4,731	—13.0 pct.
Indiana	3,183	2,638	—17.1
Michigan	5,606	4,690	—16.4
Pennsylvania	7,192	6,874	— 4.4
West Virginia	583	474	—18.7
Kentucky	2,623	2,556	—13.0

Total milk production data do not accurately reveal either the different rates of adjustment in manufacturing grade milk vs. Grade A milk or the increasing proportion of milk sold off farms. However, these data do reflect the aggregate dairy adjustment situation as it relates to the longer run association between procurement areas and marketing areas.

The procurement criterion only becomes of specific importance when there is significant milkshed overlap with potentially unstabilizing differences in producer pay prices. In such a situation, procurement necessarily becomes a relevant consideration for market consolidation or for some extensive integration of Federal order provisions among the relevant markets.

Detailed data are available on the extent of competition for milk among the markets according to location (county) of producers serving the various markets. These data have been obtained from market administrators or in some instances from the latest Dairy Division report on sources of milk.[23] These data are reflected in the milkshed map in Figure 2. In the following paragraphs, the data indicating direct relationships in milk procurement among the several markets are described.

Columbus: Columbus is the only Federal milk order market in this study which receives milk from only one state (Ohio). The Columbus market, as of September 1967, received milk from producers in 36 of Ohio's 88 counties. Other Federal milk order markets, eight in total, which procure milk from the same counties from which Columbus procures milk are listed as follows:

	Counties Supplying Milk to Both Markets
Columbus and Miami Valley	14
Columbus and Cincinnati	18
Columbus and N.E. Ohio	17
Columbus and N.W. Ohio	15
Columbus and Tri-State	13
Columbus and Wheeling	2
Columbus and Indianapolis	3
Columbus and Fort Wayne	1

Note: This listing of number of counties is reported simultaneously only for the subject market (Columbus in this instance) and the one other designated market. That is why the total number of counties listed adds up to more than the number of counties supplying milk to the subject market. Some counties supply milk to as many as seven different Federal order markets (Mercer County, Ohio, for example) and may thus be counted several times in describing the milkshed relationships for a given market.

Miami Valley: The Miami Valley market receives milk from producers in both Ohio and Indiana.

[22]Northeastern Ohio, Greater Youngstown-Warren, and Greater Wheeling, 32 F.R., 11/21/67.

[23]Sources of Milk for Federal Order Markets by State and County. Sept. 1966. Dairy Division, Consumer and Marketing Service, U. S. Dept. of Agriculture, C&MS-50.

Twenty-four counties in Ohio and eight counties in Indiana make up its procurement area. Other Federal orders with which the Miami Valley market shares counties in milk procurement are as follows:

	Counties Supplying Milk to Both Markets	
	Ohio	Indiana
Miami Valley and Cincinnati	21	6
Miami Valley and N.E. Ohio	8	2
Miami Valley and N.W. Ohio	7	2
Miami Valley and Tri-State	7	—
Miami Valley and Indianapolis	4	8
Miami Valley and Fort Wayne	2	2
Miami Valley and Columbus	14	—

Cincinnati: Producer milk comes into Cincinnati from 35 counties in Ohio, 34 counties in Indiana, 19 counties in Kentucky, 2 counties in Wisconsin, and 1 county in Illinois. Thirteen other Federal order markets share counties in milk procurement with the Cincinnati market. Eight of these markets, together with the extent of involvement, are indicated as follows:

	Counties Supplying Milk to Both Markets			
	Ohio	Ind.	Wis.	Ky.
Cincinnati and N.E. Ohio	16	15	—	—
Cincinnati and N.W. Ohio	14	7	—	—
Cincinnati and Tri-State	7	—	—	4
Cincinnati and Indianapolis	4	26	—	—
Cincinnati and Fort Wayne	3	11	1	—
Cincinnati and Louisville-Lexington-Evansville	—	2	—	3
Cincinnati and Columbus	18	—	—	—
Cincinnati and Miami Valley	21	6	—	—

The other five Federal order markets overlap in milkshed with Cincinnati to a much lesser degree. These markets include Southern Michigan (overlaps with Cincinnati in two Indiana counties); Northwestern Indiana (three Indiana counties); Quad Cities-Dubuque (one Wisconsin and one Illinois county); Rock River Valley (one Illinois county); and Madison (two Wisconsin counties).

Northeastern Ohio: The Northeastern Ohio Federal order market receives milk from 45 counties in Ohio, 18 counties in Indiana, 8 counties in Pennsylvania, and 4 counties in Michigan. Thirteen other Federal order markets procure milk in the same counties in which Northeastern Ohio handlers procure milk. Three of these markets have a very limited procurement relationship with Northeastern Ohio. These three markets are Delaware Valley (one Pennsylvania county); New York-New Jersey (one Pennsylvania county); and Tri-State (one Ohio and one Pennsylvania county). The more significant involvement of Northeastern Ohio with other Federal order markets is indicated as follows:

	Counties Supplying Milk to Both Markets			
	Ohio	Ind.	Mich.	Pa.
N.E. Ohio and N.W. Ohio	26	6	2	—
N.E. Ohio and Wheeling	4	—	—	1
N.E. Ohio and Youngstown	6	—	—	4
N.E. Ohio and Southern Michigan	2	2	3	—
N.E. Ohio and Indianapolis	2	11	—	—
N.E. Ohio and Fort Wayne	6	13	2	—
N.E. Ohio and Columbus	17	—	—	—
N.E. Ohio and Miami Valley	8	2	—	—
N.E. Ohio and Cincinnati	16	15	—	—
N.E. Ohio and N.W. Indiana	—	9	2	—

Northwestern Ohio: The Northwestern Ohio Federal order market has a milkshed which includes 30 counties in Ohio and 8 counties each in Indiana and Michigan. Eight other Federal order markets procure milk in some of the same counties as Northwestern Ohio. These are:

	Counties Supplying Milk to Both Markets		
	Ohio	Mich.	Ind.
N.W. Ohio and Southern Michigan	3	8	2
N.W. Ohio and Indianapolis	3	—	5
N.W. Ohio and Fort Wayne	6	5	6
N.W. Ohio and Columbus	15	—	—
N.W. Ohio and Miami Valley	7	—	2
N.W. Ohio and Cincinnati	14	—	7
N.W. Ohio and N.E. Ohio	26	2	6
N.W. Ohio and N.W. Indiana	—	—	9

Tri-State: The Tri-State Federal order market has a milkshed which includes 27 Ohio counties, 19 West Virginia counties, 17 Kentucky counties, and 1 Pennsylvania county. Eight other Federal order markets procure milk in some of the same counties as Tri-State. These are:

	Counties Supplying Milk to Both Markets			
	Ohio	Ky.	W. Va.	Pa.
Tri-State and Columbus	13	—	—	—
Tri-State and Miami Valley	7	—	—	—
Tri-State and Cincinnati	7	4	—	—
Tri-State and N.E. Ohio	1	—	—	—
Tri-State and Wheeling	4	—	1	1
Tri-State and Louisville-Lexington-Evansville	—	3	—	—
Tri-State and Appalachian	—	4	1	—
Tri-State and Clarksburg	—	—	3	—

Wheeling: The Wheeling market receives producer milk from eight counties in Ohio, three coun-

ties in West Virginia, and one county in Pennsylvania. Five other Federal order markets procure milk in some of the same counties as Wheeling. These are:

	Counties Supplying Milk to Both Markets		
	Ohio	W. Va.	Pa.
Wheeling and Columbus	2	—	—
Wheeling and N.E. Ohio	4	—	1
Wheeling and Tri-State	4	1	1
Wheeling and Youngstown	1	—	—
Wheeling and Clarksburg	—	1	1

Youngstown-Warren: The Youngstown-Warren Federal order market receives producer milk from seven Ohio counties, eight Pennsylvania counties, and one New York county. Four other Federal order markets procure milk in some of the same counties as Youngstown-Warren. These are:

	Counties Supplying Milk to Both Markets		
	Ohio	Pa.	N. Y.
Youngstown-Warren and N.E. Ohio	6	4	—
Youngstown-Warren and Wheeling	1	—	—
Youngstown-Warren and Delaware Valley	—	3	1
Youngstown-Warren and New York-New Jersey	—	3	1

Southern Michigan: The Southern Michigan Federal order market has a milkshed which includes 62 Michigan counties, 3 Ohio counties, and 2 Indiana counties. Six other Federal order markets procure milk in some of the same counties as Southern Michigan. These are:

	Counties Supplying Milk to Both Markets		
	Mich.	Ind.	Ohio
Southern Michigan and N.E. Ohio	3	2	2
Southern Michigan and N.W. Ohio	8	2	3
Southern Michigan and Fort Wayne	7	2	2
Southern Michigan and Cincinnati	—	2	—
Southern Michigan and N.W. Indiana	3	1	—
Southern Michigan and Upstate Michigan	10	—	—

Indianapolis: The Indianapolis Federal order market has a milkshed which includes 63 Indiana counties, 4 Ohio counties, 5 Illinois counties, and 10 Wisconsin counties. Fourteen other Federal order markets procure milk in some of the same counties in which Indianapolis procures milk. Only 7 of these 14 markets are directly related to this study, as the other 7 markets are located primarily in Illinois and Wisconsin. The procurement area relationships of the seven relevant markets to Indianapolis are:

	Counties Supplying Milk to Both Markets		
	Ind.	Ohio	Wis.
Indianapolis and Miami Valley	8	4	—
Indianapolis and Cincinnati	26	4	—
Indianapolis and N.E. Ohio	11	2	—
Indianapolis and N.W. Ohio	5	3	—
Indianapolis and Fort Wayne	8	1	3
Indianapolis and Louisville-Lexington-Evansville	8	—	—
Indianapolis and Columbus	—	3	—

Fort Wayne: The Fort Wayne Federal order market has a milkshed which includes 13 Indiana counties, 6 Ohio counties, 7 Michigan counties, and 8 Wisconsin counties. Twelve other Federal order markets procure milk in some of the same counties as Indianapolis. Seven of these other markets are an integral part of this study, while five of the other markets are primarily associaated with the Illinois-Wisconsin area. For the seven relevant markets, the procurement area relationships with Fort Wayne are:

	Counties Supplying Milk to Both Markets			
	Ind.	Ohio	Mich.	Wis.
Fort Wayne and Miami Valley	2	2	—	—
Fort Wayne and Cincinnati	11	3	—	1
Fort Wayne and N.E. Ohio	13	6	2	—
Fort Wayne and N.W. Ohio	6	6	5	—
Fort Wayne and Southern Michigan	2	2	7	—
Fort Wayne and Indianapolis	8	1	—	3
Fort Wayne and Columbus	—	1	—	—

Louisville-Lexington-Evansville: The Louisville-Lexington-Evansville Federal order market has a milkshed which includes 61 counties in Kentucky, 24 counties in Indiana, 6 counties in Illinois, and 5 counties in Tennessee. Eight other Federal order markets procure milk in some of the same counties as Louisville-Lexington-Evansville. These are:

	Counties Supplying Milk to Both Markets			
	Ind.	Ky.	Ill.	Tenn.
Louisville-Lexington-Evansville and Cincinnati	2	3	—	—
Louisville-Lexington-Evansville and Indianapolis	8	—	—	—
Louisville-Lexington-Evansville and Tri-State	—	3	—	—
Louisville-Lexington-Evansville and Southern Illinois	—	1	4	—
Louisville-Lexington-Evansville and St. Louis	—	—	2	—
Louisville-Lexington-Evansville and Nashville	—	7	—	4

Louisville-Lexington-Evansville and Paducah	—	5	—	—
Louisville-Lexington-Evansville and Appalachian	—	3	—	—

From the descriptions of the several milksheds, it is apparent that several of the markets are inextricably related to one another in the procurement of producer milk. This is particularly true for the Northeastern Ohio, Northwestern Ohio, Columbus, Miami Valley, and Cincinnati Federal order markets. Each of these five markets, as indicated in Figure 2, procures milk in at least nine of the same counties as each of the other markets.

In considering markets more to the periphery of the area studied, milkshed relationships become less intense, as one would expect, but there continue to be substantial areas of overlap. For example, the Tri-State market procures milk in 13 of the same counties as Columbus, 11 of the same counties as Cincinnati, and 7 of the same counties as Miami Valley.

In the west and north, Cincinnati is involved extensively with Indianapolis and Fort Wayne in milk procurement. Other notable procurement relationships include Miami Valley with Indianapolis, Northeastern Ohio with Indianapolis and Fort Wayne, and Northwestern Ohio with Southern Michigan and Fort Wayne.

Significant variations in producer pay prices exist in these areas of extensive milkshed overlap because the milk is moving to different markets with different utilizations and with different Class I prices. No notice is taken of various over-order premiums paid producers in these markets because these premiums are separate from Federal order provisions.

Federal order blend prices by months for milk testing 3.5 percent butterfat for each of the 12 Federal order markets for the period October 1966 through May 1968 are shown in Table 5. In addition, the annual blend price averages for 1966 and 1967 for each market are included in the table.

Without going into detail regarding producer price differences among these 12 markets, it is apparent that a substantial range in Federal order blend prices exists. Blend price averages for 1966 ranged from $4.47 in Southern Michigan to $5.29 in Tri-State (Athens); in 1967 they ranged from $4.79 in Southern Michigan to $5.37 at Youngstown-Warren. Much of this price range is not only expected and de-

TABLE 5.—Federal Order Blend Prices for 12 Markets by Months, Oct. 1966 Through May 1968.

	Cincinnati	Columbus	Miami Valley	Northeastern Ohio	Northwestern Ohio	Tri-State (Athens)	Wheeling	Youngstown-Warren	Southern Michigan	Fort Wayne	Indianapolis	Louisville-Lexington-Evansville
Oct. 1966	$5.64	$5.85	$5.83	$5.43	$5.40	$5.72	$5.36	$5.60	$4.87	$5.45	$5.70	$5.87
Nov.	5.65	5.80	5.77	5.39	5.33	5.72	5.26	5.57	4.85	5.42	5.65	5.83
Dec.	5.48	5.73	5.55	5.47	5.43	5.57	5.27	5.69	4.82	5.07	5.52	5.73
1966 Av. (12 mo.)	$4.85	$5.06	$4.97	$4.94	$4.96	$5.29	$4.95	$5.14	$4.47	$4.79	$4.89	$4.97
Jan. 1967	5.18	5.47	5.28	5.38	5.33	5.34	5.30	5.63	4.80	5.02	5.10	5.29
Feb.	5.15	5.44	5.28	5.41	5.37	5.35	5.29	5.64	4.91	5.04	5.12	5.26
March	5.11	5.31	5.16	5.22	5.15	5.31	5.26	5.40	4.80	4.93	5.09	5.25
April	4.65	4.87	4.77	4.76	4.82	4.97	4.99	4.96	4.69	4.62	4.56	4.49
May	4.73	4.86	4.83	4.97	5.02	4.93	5.02	5.19	4.86	4.65	4.62	4.61
June	4.71	4.80	4.71	4.91	4.87	4.88	5.08	5.14	4.74	4.61	4.57	4.60
July	4.90	4.97	4.97	4.98	4.92	5.02	5.34	5.30	4.78	4.93	4.63	4.59
August	5.19	5.33	5.27	5.05	5.01	5.25	5.33	5.39	4.77	5.08	5.17	5.09
Sept.	5.67	5.59	5.71	5.23	5.23	5.62	5.41	5.48	4.76	5.52	5.86	5.79
Oct.	5.81	5.51	5.81	5.19	5.14	5.71	5.40	5.47	4.78	5.42	5.73	5.75
Nov.	5.91	5.52	5.80	5.22	5.13	5.70	5.45	5.49	4.81	5.40	5.79	5.83
Dec.	5.79	5.56	5.61	5.24	5.17	5.58	5.45	5.50	4.81	5.01	5.67	5.80
1967 Av. (12 mo.)	$5.20	$5.26	$5.26	$5.12	$5.09	$5.31	$5.27	$5.37	$4.79	$5.01	$5.14	$5.18
Jan. 1968	5.52	5.38	5.51	5.25	5.21	5.34	5.48	5.52	4.85	5.01	5.18	5.37
Feb.	5.46	5.34	5.38	5.16	5.17	5.31	5.53	5.49	4.94	5.01	5.18	5.35
March	5.40	5.16	5.34	5.07	5.08	5.34	5.46	5.32	4.95	5.03	5.15	5.32
April	5.12	5.00	5.13	5.01	5.06	5.09	5.35	5.25	5.02	4.88	4.85	4.84
May	5.31	5.05	5.32	5.12	5.22	5.13	5.34	5.43	5.39	5.00	5.01	4.92

sirable but is also sought under the administered pricing plans as a reflection of: (1) the substantial differences in production conditions across this large geographic area, (2) variations in costs of obtaining alternative milk supplies due to distance, and (3) effects of some of the seasonal incentive plans. However, it is relevant to note that for given months, within areas where several markets are competing for and procuring milk supplies, producer milk prices show enough differences to imply some instability in milk marketing. For example, for five markets cited previously—Cincinnati, Columbus, Miami Valley, Northwestern Ohio, and Northeastern Ohio—blend prices for the 20-month period recorded in Table 5 provide the following facts:

1. The range in blend prices for these five markets was less than 20 cents in only 2 months of the 20-month period.
2. The average monthly range was 36 cents.
3. In 3 of the months (payback months for three of these five markets), the range in producer prices was more than 70 cents per cwt.

It is recognized that there are desirable aspects to some of these producer price differences among closely related markets. Such aspects are primarily expressed in terms of maintaining a healthy competitive edge among markets and milk marketing cooperatives as they strive for optimum utilization levels. At the same time, however, the elements of instability and the matter of equity as they relate to producer price differences are recognized concerns of the Federal Milk Marketing Order Program. As such, the procurement area criterion must be an integral part of marketing area definition.

GENERAL MARKET ORGANIZATION

The criterion of general market organization for market area definition purposes includes several dimensions. Johnson[24] alluded to some of these in his reference to an 'economic market' by mentioning "seasonal price incentive plans, cooperative affiliation of producers, market organization and structure, promotional activities, etc., ..."

In a sense, general market organization implies a simultaneous look at some of the elements of both procurement and distribution. The comment in the Nourse Committee Report that ". . . orders be issued for marketing areas in which the conditions of demand and supply are reasonably homogeneous. . ." suggests a general definition for the market organization measure. General market organization as a criterion for defining marketing area serves to incorporate several relevant elements which are not otherwise expressly recognized. In this section, three important elements are evaluated. These include: (1) working relationships among cooperatives, (2) compatibility of Federal order provisions, and (3) market organization and structure (handlers).

Working Relationships Among Cooperatives

All of the major and effective milk marketing cooperatives in the 12 Federal order markets under study are members of the Great Lakes Milk Marketing Federation and the National Milk Producers Federation. In addition, the Ohio-based cooperatives are members of the Ohio Milk Producers Federation. This latter federation is organized primarily to serve communications and state legislative objectives.

Working relationships among the several cooperatives will be analyzed in terms of: (1) the Great Lakes Milk Marketing Federation, because this federation is basically involved in the pricing and marketing of milk; and (2) interdependence of the cooperatives and markets in terms of utilizing surplus milk and meeting full supply requirements.

Great Lakes Milk Marketing Federation: The Great Lakes Milk Marketing Federation was incorporated in 1960 and has since grown to a membership of 19 milk marketing cooperatives representing about 33,000 dairy farmers. The scope of the Great Lakes organization (as shown in Figure 3) is somewhat larger in number of markets than the scope of this study.

The primary function of the federation is rather narrowly focused in terms of establishing premium Class I prices and maintaining alignment on them in the member markets. This function is based upon the following resolution of the federation: "We will develop a plan of action to bargain prices for member milk in the Great Lakes marketing area through the Great Lakes Milk Marketing Federation."[25] Other marketing functions the federation has engaged in as supporting measures to price establishment include: (1) arrangements between cooperatives to share in Class I sales, (2) supplying extra milk to other cooperatives when needed, (3) acceptance of additional milk to support a sister cooperative's bargaining position, and (4) exchange of market information.

For the 12 Federal order markets involved in this study, the relationship between minimum Federal order Class I prices and Great Lakes Class I prices, as of June 1968, is shown in Table 6.

The Great Lakes Federation has been actively involved in establishing Class I price premiums from August 1966 to the present time. Prices and price rela-

[24]Johnson, Stewart. Op. cit.

[25]Minutes, Marketing Committee Meeting, Great Lakes Milk Marketing Federation, March 1966.

Fig. 3.—Great Lakes Milk Marketing Federation, January 1, 1968.

33,049 Members -- 9.843 Billion Pounds of Milk Per Year - 19 Cooperatives

TABLE 6.—Class I Prices in 12 Federal Order Markets, June 1968.

Market	Federal Order Class I Price	Great Lakes Class I Price	Amount of Class I Price Premium
Tri-State (Athens)	$5.93	$6.25	$0.32
Wheeling	5.98	6.35	0.37
Youngstown-Warren	6.05	6.40	0.35
Louisville	6.01	6.25	0.24
Cincinnati	6.11	6.25	0.14
Columbus	5.78	6.25	0.47
Miami Valley	6.01	6.25	0.24
Fort Wayne	5.75	6.00	0.25
Indianapolis	5.82	6.05	0.23
Northwestern Ohio	5.78	6.25	0.47
Northeastern Ohio	5.95	6.40	0.45
Southern Michigan	5.93	6.40	0.47

tionships among markets are reviewed and determined at regularly scheduled meetings of the federation's leadership. The general agreement on overall objectives of milk marketing cooperatives and the relatively close working relationships and understandings which have developed among these member organizations indicate an environment which would permit and would recommend some given types of Federal order consolidation.

Interdependence of Cooperatives and Markets: For purposes of meeting full supply requirements and utilizing surplus milk, relatively effective working relationships exist among the several cooperatives. These functions are ordinarily viewed by the cooperatives as normal marketing functions which do not represent assigned responsibilities of the Great Lakes Milk Marketing Federation.

Class I utilization in 1967 in these 12 Federal order markets ranged from 65.8 percent in Southern Michigan to 80.4 percent in the Tri-State market. On a seasonal basis, most of these markets experience excess milk supplies in the spring and milk deficits to a varying degree in the fall.

With respect to meeting full supply requirements, there is no uniform pattern of activity in these markets. The two largest pools, Southern Michigan and Northeastern Ohio, have 10 and 5 supply plants respectively qualified in the pool. Among the other markets, five do not have supply plants and five have only one or two supply plants. Most of the plants qualified as supply plants are owned and operated by cooperatives.

Cooperatives in the markets without supply plant facilities normally look first for outside milk supplies to these neighboring cooperatives. This is also true for those co-ops with supply plant facilities which need even additional milk supplies. It is only as a second priority that cooperatives go outside of the region for additional milk. Reasons for the limited import of out-of-region milk include: (1) philosophy of acquiring milk from sister organizations as a price-strengthening factor, (2) lower transportation costs on closer milk, and (3) limited need for and general availability of extra milk in the overall milkshed of the 12 markets.

In regard to utilizing surplus milk, again no general pattern of activity is observable in these markets. For those cooperatives which do not have manufacturing facilities, surplus milk is directed to either proprietary plants in or near the market or to the manufacturing plants of other cooperatives. These other cooperatives are particularly looked to in any kind of price negotiation activity.

The best example of this type of situation took place in the Columbus market on August 1, 1967. On that date, a major handler in the Columbus market refused milk on the basis that the Great Lakes Class I price was too high. The local cooperative, which does not possess manufacturing facilities, then diverted milk to the major cooperative manufacturing facilities at Dayton and Orrville, Ohio. This type of cooperation is indicative of the relatively harmonious and effective working relationships which have developed among the cooperatives in these markets.

Compatibility of Federal Order Provisions

The trend in recent years to uniformity and integration of the major provisions of Federal milk marketing orders minimizes the problem of conflicting Federal order provisions as an obstacle to defining marketing areas. The major order provision that could represent a limiting problem, that of coexistence of both marketwide and individual handler pools, does not become a factor in these markets. All 12 markets operate on a marketwide pool basis.

The most significant order provision with substantial variations in it among the 12 Federal order markets is that of seasonal incentive payment plans. Seven of the markets, including Cincinnati, Columbus, Fort Wayne, Indianapolis, Louisville-Lexington-Evansville, Miami Valley, and Tri-State, utilize the Louisville type take-out pay-back plan. The Southern Michigan market is the only one of the 12 markets which utilizes a base-excess plan. The Wheeling market utilized a base-excess plant until September 1, 1967, but this was suspended and then eliminated as Wheeling merged into the Eastern Ohio-Western Pennsylvania Federal order market.

The other three markets, Northwestern Ohio, Northeastern Ohio, and Younstown-Warren, do not have seasonal pricing features. In recent years, these markets have used seasonably varied Class I price differentials, but emergency Class I price decisions in 1967 and 1968 moved these markets onto a constant Class I differential.

In each of these 12 markets, there is a general satisfaction with and preference for the type of seasonal pricing plan used in the particular market. In only one instance, however, does it appear that the seasonal plan poses a potential problem to market area consolidation. This instance is that of the base-excess plan in Southern Michigan. In recent months, activities related to the merging of the Upstate Michigan Federal order with Southern Michigan and to the transfer of producer milk from Northwestern Ohio to Southern Michigan have both been inhibited due to the base plan in Southern Michigan. This problem will have to be recognized and dealt with directly in any type of consolidation move.

All other provisions in these 12 Federal order markets are similar enough to indicate they would not be limiting factors in redefining marketing areas. For example, Class I price formulation in all of these markets is based upon the Minnesota-Wisconsin manufacturing milk price series with specified differentials and supply-demand adjustors. Other major provisions, such as performance standards and classes of milk, which differ very little among the markets, could be adjusted with no trouble.

The current revolution in philosophy with respect to Class I pricing and supply-demand adjustors bears directly on the marketing area problem. Supply-demand adjustors appear to be on their way out as elements in Class I pricing. The Chicago Regional order, effective July 1, 1968, did not include provisions for a supply-demand adjustor. In the Southern Michigan market, the supply-demand adjustor was removed effective May 1, 1968. The Eastern Ohio-Western Pennsylvania market, through suspension actions and final decision actions, removed its supply-demand adjustor provisions effective with the inauguration of the order (July 1, 1968). In addition, the Northwestern Ohio market, which related its supply-demand adjustor pricing to Northeastern Ohio, has eliminated this provision. A number of other Federal order markets have also recently removed the supply-demand adjustor clauses.

For many years supply-demand adjustors have been used in local Federal order markets as a funda-

TABLE 7.—Elements of Class I Prices in 12 Federal Order Markets, 1967.

Market	Class I Differential*	Limits on S-D Adjustor	Average Effect of S-D Adjustor 1967	Range in Monthly S-D Adjustors 1967	Average Class I Price 1967
Cincinnati	$1.34	± 39¢	+ 20¢	+ 6 to + 36¢	$5.77
Columbus	1.25	± 38	+ 20	0 to + 38	5.68
Fort Wayne	1.20	± 38	+ 2	— 2 to + 10	5.46
Indianapolis	1.27	± 38		Same as Fort Wayne	5.53
Louisville-Lexington-Evansville	1.29	± 50	+ 12	+ 6 to + 17	5.64
Miami Valley	1.24	± 39		Same as Cincinnati	5.67
Northeastern Ohio‡	1.67†	± 25	— 19	0 to — 25	5.73
Northwestern Ohio‡	1.25	0 to + 50	+ 6	0 to + 25	5.55
Southern Michigan‡	1.40	± 45	— 41	— 30 to — 45	5.22
Tri-State (Athens)	1.47	± 38	0	0 to — 3	5.83
Wheeling‡	1.73	± 40	— 21	— 10 to — 40	5.76
Youngstown-Warren‡	1.77†	± 25		Same as N.E. Ohio	5.83

*Class I differentials are all 20 cents higher than indicated through April 1969.

†The new Eastern Ohio-Western Pennsylvania order retains the same differential in the Cleveland-Erie area but has $1.77 for Wheeling, Youngstown, and Pittsburgh.

‡The supply-demand adjustor was eliminated in Southern Michigan May 1, 1968. The supply demand adjustor was eliminated in Eastern Ohio-Western Pennsylvania and in Northwestern Ohio July 1, 1968. The action for Northwestern Ohio also included raising the Class I differential from $1.25 to $1.50.

mental element in Class I pricing. Theoretically, supply-demand adjustors provide an essential dimension of flexibility to Class I prices which is necessary to best reflect the balance between supplies of milk for the market and Class I sales. However, in establishing Class I prices based to a considerable extent on local marketing conditions, the potential exists for serious Class I price alignment problems among markets. This problem becomes more acute as mobility of bulk and packaged milk increases. Since milk has become more mobile and since price alignment problems can be resolved through fixed Class I differentials, the reasons for using supply-demand adjustors, particularly on a local basis, have been disappearing. The mere fact that these administrative actions are now taking place appears to be a direct recognition that the local marketing area, as once conceived, is now subject to the influences of milk marketing on a larger marketing area basis.

While detailed analysis of supply-demand adjustors in these 12 markets may be somewhat academic because these adjustors are disappearing, the situations of Class I price misalignment which have occurred relate closely to the marketing area problem. In evaluating Class I price formulation and supply-demand adjustors, it is relevant to note the various standard utilization percentages which the respective markets direct themselves to and which directly affect the Class I price. First, however, it is appropriate to review the variable components of Class I price and recent levels of the Federal Class I price for these markets. Information on Class I differentials and supply-demand adjustors as of 1967 are shown in Table 7.

Table 7 shows that Class I differentials in the 12 markets have a range of $0.57, i.e., from $1.20 to $1.77. In 1967, the range in Class I prices among these markets was quite close to this range in Class I differentials. The Class I price range from $5.22 in Southern Michigan to $5.83 at Tri-State and Youngstown was $0.61. The average effect of supply-demand adjustors ranged from minus 41 cents in the Southern Michigan market to plus 20 cents in the Columbus, Miami Valley, and Cincinnati markets. However, annual averages hide some critical differences in supply-demand adjustors as calculated monthly. For example, in the closely adjoining markets of Miami Valley and Columbus, supply-demand adjustors differed by as much as 36 cents in 2 months of 1967, with resulting direct effects on Class I prices as established by the Federal orders.

The basic reason for reviewing supply-demand adjustors is to finally point up the substantial variation in standard utilization percentages which have been established among these markets.

Price calculations based on supply-demand adjustors are ultimately geared to standard utilization percentages. Class I price alignment, which is a matter of critical importance among these markets, may be distorted due not only to different supply-demand adjustor pricing schedules, but more basically to the varying necessary reserve requirement standards existing in the markets. By adjusting the standard utilization percentages for each of the 12 markets to a Class I utilization divided by total receipts basis, it is possible to directly compare the standards among the markets. The standard utilization percentages thus calculated are:

Market	Standard Utilization Percentages
Cincinnati and Miami Valley	63.5
Columbus	74.6
Indianapolis and Fort Wayne	73.2
Southern Michigan	73.0
Tri-State	82.8
Wheeling	82.8
N.E. Ohio	75.2
N.W. Ohio (tied to N.E. Ohio)	75.2
Youngstown-Warren (tied to N.E. Ohio)	75.2

The Louisville-Lexington-Evansville market does not have a fixed standard as such but utilizes a moving average type of calculation.

The substantial range in standard utilization percentages from 63.5 percent for the Cincinnati and Miami Valley markets to 82.8 percent for the Wheeling and Tri-State markets implies major differences in necessary reserve requirements among the several markets. In view of the obvious mobility of milk in procurement and distribution, this premise of substantially divergent reserve requirements is subject to serious question. In any redefinition of marketing areas, the differences in standard utilization percentage, if supply-demand adjustors continue to be used, must be directly recognized and adjusted.

Market Organization and Structure

The organization and structure of the milk market in the 12 Federal order markets surveyed reflect most of the elements of extensive and efficient marketing of milk permitted by the latest technology. Structure is defined here in the usual sense as "those characteristics of the organization of a market which seem to influence strategically the nature of competition and pricing within the market."[26] One measure of the generally increasing concentration of the fluid milk industry is the significant decrease in plant numbers, even while market Class I sales have shown sub-

[26]Bain, Joe S. 1959. Industrial Organization. John Wiley & Sons, Inc., p. 7.

TABLE 8.—Number of Pool Handlers and Annual Class I Volume per Market, 12 Markets, 1961 and 1967.*

Market	1961		1967	
	Number of Pool Handlers	Annual Class I Volume per Market	Number of Pool Handlers	Annual Class I Volume per Market
		(000 lb.)		(000 lb.)
Wheeling	22	126,447	9	113,020
Tri-State	28	219,815	25	338,715
Southern Michigan	179	2,131,071	79	2,306,154
Northwestern Ohio	32	462,088	18	398,986
Northeastern Ohio	65	1,069,148	47	1,155,467
Columbus	12	273,475	19	423,012
Miami Valley	16	325,103	12	354,907
Cincinnati	46	408,092	26	494,564
Youngstown-Warren	15	199,106	12	185,614
Fort Wayne	18	118,684	10	192,979
Indianapolis	39	600,768	27	689,749
Louisville-Lexington-Evansville	40	501,963	25	709,869
Total	512	6,435,760	309	7,363,036

*1961 data adjusted to reflect Federal order consolidations.

Source: Federal Milk Order Market Statistics, Supplement for 1961 to S.B. No. 248, Nov. 1962; and Federal Milk Order Market Statistics, S.B. No. 426, Dairy Division, Consumer and Marketing Service, U. S. Dept. of Agriculture, May 1968.

stantial increases. In Table 8, the number of handlers for each market and the annual volume of Class I milk per market are shown for 1961 as compared to 1967.

As indicated in Table 8, the number of regulated handlers in these 12 Federal order markets declined from 512 in 1961 to 309 in 1967. This is a decline of 39.6 percent in the number of pool handlers in the relatively short period of 6 years. The aggregate volume of Class I sales for the 12 markets increased from 6.44 billion lb. in 1961 to 7.36 billion lb. in 1967, an expansion of 14.4 percent.

Reducing these Class I sales figures to a per plant basis is difficult because: (1) supply plants are included in several markets, and (2) both handler and plant systems are used in reporting handlers among these markets. However, it appears on limited observation that the average Class I volume per bottling plant has increased from about 1 million lb. per month to 2 million lb. per month in the period from 1961 to 1967.

Several additional dimensions of the market organization and structure criterion are relevant to this discussion. These dimensions include the operations of national and regional dairy firms, national and regional food store chains, vertically integrated fluid milk operations, arrangements between handlers for reciprocal processing, and a highway network permitting extended and substantial commerce among the several markets.

National dairy companies including Borden, Beatrice, and Sealtest either are regulated in or distribute milk in all of these markets. Other nationals together with regionals including Bowman, Hawthorne, Melody, Dean, and Isaly are found in 2 or more of the 12 markets.

Food store chains, either horizontally combined or vertically integrated into fluid milk processing, account for more than half of all fluid milk sales in these markets. The A&P food stores operate in all 12 markets and, at this time, rely on local handlers for their supplies of packaged milk. Kroger food stores are also found in all 12 markets but these stores rely almost entirely on their own packaged milk production from Kroger plants at Indianapolis, Cincinnati, and Detroit. The Lawson Milk Co., also vertically integrated with plants at Akron and Springfield, Ohio, sells milk through nearly 600 food stores in 6 of the 12 markets under study.

In addition to the coordinated marketing activities across two or more markets afforded the multiplant and the vertically integrated fluid milk handlers, contractual arrangements for given services between independent handlers are also prevalent among the markets. For example, a handler in the Columbus market bottles 10-quart plastic containers for a Northwestern Ohio handler and receives 1-gallon paper containers of milk in return.

Many of these marketing functions are taking place through modern, large volume, automated processing centers which require extensive distribution areas to absorb their output. For example, one such modern plant in this area has a listed capacity of 30 million lb. of Class I milk monthly. Distribution of packaged milk in a radius of up to 300 miles is commonplace from some of these processing centers.

Complementary to these several considerations is the excellent intercity, interstate highway system

connecting these 12 markets. On an east-west axis, the Indiana-Ohio-Pennsylvania turnpike, connecting Toledo, Cleveland, and Pittsburgh, plus Interstate 70, connecting Indianapolis, Dayton, Columbus, and Wheeling, tie several markets together. On a north-south axis, interstate highways connect Cleveland, Marietta, and Charleston (77); Cleveland, Columbus, and Cincinnati (71); and Detroit, Toledo, Dayton, Cincinnati, and Lexington (75).

While these several elements of market organization and structure do not add substantively to the logical definition of marketing area boundaries, they indicate that there is nothing in the market organization and structure of these 12 markets that limits the market area definition or that identifies any particular section of this area as somewhat unique. These elements also imply the extensive coordination occurring across several markets simultaneously in both the processing and distribution of milk by handlers and the sale of milk by food stores. This widespread type of market organization and structure thus reflects a homogeneity in marketing which has previously been suggested as a desirable consideration in defining market areas.

ACCEPTANCE AND SUPPORT BY COOPERATIVES

The criterion of acceptance and support by milk marketing cooperatives of Federal order considerations, either in promulgation or amendment, has historically been handled as an implicit and understood ingredient of the administrative and regulatory process. Such support by cooperatives frequently fails to gain explicit attention because of a reluctance to emphasize a political dimension to what some people would like to consider a purely economic decision.

With reference to marketing area decisions, one of the major propositions offered in the Nourse Committee Report suggested a broad policy which places the problem of this acceptance criterion in a somewhat clearer perspective. The report stated, "We believe that the trend toward enlargement of old orders, merging of smaller into larger market areas, or broader definition of new order markets should be encouraged. This would facilitate more effective adjustment to technological and commercial changes, accomplished or now in process, and would be continuously guided by Department studies and administrative decisions. The special interests of local groups and the personal preferences of individual leaders should not be allowed to cramp the public interest any more than results from limitations on the authority of the Department laid down in the law or than producers effect through the hearing and referendum procedure."[27]

While the Committee recommendation sets forth a normative situation which would reflect more objectivity than current processes, the machinery of administrative procedures and the required producer support in referenda diminish the reality of more arbitrary moves by the Department, at least in the short run.

To ascertain the relative importance of acceptance and support by cooperatives as a criterion in marketing area definition, the leaders of 13 of the major milk marketing cooperatives in the 12 markets were interviewed as to their objectives, considerations, and reactions to expansion and consolidation of marketing areas.

[27]Nourse Committee Report. Op. cit., Part III, p. 25.

TABLE 9.—Cooperatives' Viewpoints of Importance of Marketing Area Criteria.*

Cooperative	Sales Area	Procurement Area	General Market Organization	Cooperative Acceptance	Uniform Grade A Standards	State Boundaries	Class II Product
A	2	1	1	1	1	0	2
B	2	1	1	2	0	0	2
C	2	1	1	1	1	0	1
D	2	0	1	1	1	0	2
E	1	1	1	1	1	0	1
F	2	1	2	1	1	0	1
G	1	1	1	1	1	1	1
H	2	1	2	2	0	0	2
I	2	1	2	1	0	0	1
J	2	2	2	1	0	0	1
K	2	1	2	1	0	0	1
L	2	2	2	2	0	0	0
M	2	1	1	1	1	0	1
Total	24	14	20	16	7	1	16

*2 = very important; 1 = important; 0 = not important.

A first significant point in this inquiry was to define the criteria which managers of cooperatives felt were necessary and relevant to the definition of marketing areas. Seven criteria were advanced to the managers, including sales area, procurement area, general market organization, support and acceptance by cooperatives, state boundaries and commissions, and Class II processing and distribution. No additional criteria were suggested by managers during the interviews. Responses of the 13 cooperatives are indicated in Table 9.

On the basis of a potential of 26 points for each criterion, it is clear that only uniform Grade A standards and state boundaries—state commissions fall out as criteria no longer important from the viewpoint of cooperatives. This view of uniform Grade A standards is based upon the disappearance of variations as a problem in moving milk as discussed previously. The other criteria ranked relatively high as significant factors in defining marketing areas.

The importance of general market organization (20) and Class II processing and distribution (16) ranked surprisingly high in that little discussion has been directed to these factors historically. While procurement area received only 14 points, the interviews reflected a frequent equating of procurement area with sales area, with managers then giving the emphasis to sales area. One highly respected manager, in reacting to procurement area, stated that "Federal orders should recognize procurement area much more," particularly in areas where the density of milk production is decreasing, leading to extensive overlap of procurement areas.

The question may be raised as to why managers of milk marketing cooperatives would rank support and acceptance by cooperatives as relatively low (16) as they did. It appeared on the basis of the interviews that managers viewed this criterion as a factor over which they had some control and therefore as a factor which they took much more for granted. As a result, while cooperative managers may in fact view cooperative acceptance and support as an all-important fundamental consideration in marketing area adjustments, they were prone to give more attention to criteria over which they had little or no control, such as distribution. The managers appeared to be ranking the criteria in terms of those which concerned them or troubled them directly as much or more as in terms of how they actually viewed the relative importance of the marketing area criteria.

In responding to inquiries about adequacy of the size of the present marketing area, only 1 of the 13 managers expressed unqualified support for the size of his current marketing area and resistance to any potential changes. In general, there was a feeling that expansion through consolidation was needed, although there was no particular motivation to do this immediately because no one happened to be taking leadership on a particular move at the present time. In some instances, managers indicated specific markets they felt should be consolidated while rejecting possible consolidations with other markets.

In considering neighboring markets for consolidation purposes, managers raised some key questions and considerations which are not often expressed and evaluated directly in marketing area analyses. Some of these were:

- When you cover too large a marketing area with two or more cooperatives involved, you may take away some of the initiative and responsibility from one or more of the co-ops to effectively market milk.
- There is no substitute for high utilization in the market pool and cooperatives should take more initiative in maintaining and increasing utilization.
- When Class II products *have* to be made from Grade A milk and this milk is then in the Federal order pool, other markets which are receiving these Class II products should then share in the Class II price.

CLASS II PROCESSING AND DISTRIBUTION

The problem of lower Class I utilization in some market pools due to the centralization of processing Class II products in specialized plants at given locations appears to be of increasing importance. Two questions raised in this situation are: (1) Why should not producers in other nearby markets in which many of these products (mostly ice cream and cottage cheese) are sold have to share the Class II price burden? (2) Why should not distribution areas for these Class II products then be an important factor in marketing area definition?

The manager of one of the major cooperatives in this study made the following comment with respect to this measure of Class II processing and distribution: "Class II should not be a consideration in market area definition because Class II milk supplies beyond necessary reserve requirements should not be in the pool in the first place. *But* if these products have to be made from Grade A milk, then other markets should share in this Class II price."

The requirement that Grade A milk ingredients be used in some manufactured dairy products, particularly ice cream and cottage cheese, appears to be gaining in prevalence. This fact in part accounts for the current series of Federal order amendments requiring intermediate (higher than Class II) prices for skim milk used in cottage cheese. The uniform Grade A

regulation for the state of Ohio now requires that Grade A ingredients be used in cottage cheese manufacture. With respect to ice cream, the Ohio law has no Grade A provision. However, all major municipal health departments, including Cleveland, Akron, Canton, Columbus, Toledo, Cincinnati, and Dayton, require Grade A ingredients for the manufacture and sale of ice cream.

This survey did not produce adequate data for using Class II processing and distribution as one of the several criteria for making marketing area recommendations. Federal order market reporting and auditing procedures do not supply comparable detailed information on distribution of Class II products as on Class I products. However, information was gathered on what major Class II products were processed by pool handlers and how much milk was utilized in ice cream and cottage cheese manufacture. All markets reported ice cream (and mix) and cottage cheese among the major Class II products and several of the markets reported condensed milk and nonfat dry milk among the major Class II users. Other Class II products were not listed in this "major" category.

These 12 Federal order markets were previously shown to have about a 15 point range in utilization (65 percent in Southern Michigan to 80 percent in Tri-State). Much of this variation in utilization among markets is apparently accounted for by the association of ice cream and cottage cheese processing with the lower utilization pools as compared to the higher utilization pools. This type of situation raises a question of equity and sharing of surplus among markets, which is a factor in defining marketing areas.

The purpose in directing some attention at this point to Class II processing and distribution in relation to marketing areas is to bring into focus a possible additional measure which historically has not been a factor in marketing area analyses. On the basis of both expanding Grade A requirements on various Class II products and centralization of product processing facilities in selected markets, greater significance may have to be attached to Class II processing and distribution as a marketing area criterion in the future.

SUMMARY AND CONCLUSIONS

The six criteria for marketing area definition which have been specified in this study all bear directly on the marketing area decision. As such, a simultaneous consideration of the six criteria would seem helpful and desirable in effective marketing area determination. These six criteria are:

1. Encompassment of sales area of competing handlers
2. Uniform sanitary standards
3. Consideration of procurement area relationships
4. General market organization
5. General acceptance by cooperatives
6. Class II processing and distribution situation

It seems particularly desirable to escape from a primary criterion of "sales area encompassment" to the substantially broader context of the six criteria analyzed as a foundation for marketing area policy. By defining marketing areas primarily on the basis of competing handlers' sales territories, the entire regulatory program becomes caught up, in a sense, in a pattern of being responsive to or following the distribution decisions and adjustments being made by milk handlers.

From the definition of a market advanced earlier (i.e., a closely interrelated group of buyers and sellers), it is apparent that consideration of the six criteria offers a stronger and more balanced base for identifying the relevant market than does the more exclusive emphasis on sales and sanitary standards. Furthermore, consideration of the six factors divorces the regulatory program from some of the uncertainty associated with the dynamic types of adjustments taking place in distribution patterns.

In emphasizing the desirability of considering the several marketing area criteria, it should not be concluded that marketing area decisions historically have failed to observe these additional criteria. In analyzing past marketing area decisions, numerous inferences may be drawn with respect to the recognition of procurement area relationships, acceptance by cooperatives, general market organization, and other practical considerations.

One other aspect of utilizing the six marketing area criteria is that each measure may suggest something different with respect to size of marketing area or area consolidation. For example, a 'domino theory' type of reasoning could be applied to procurement area relationships which might finally suggest a super-regional or national type of marketing area. To keep this type of possibility in perspective, it should be emphasized that by using all six criteria *simultaneously, with no priority given to any of the six,* a balanced type of judgment should be realized which will suggest the most effective type of marketing area. As such, no single criterion will override the aggregate of marketing area criteria and marketing area boundaries will not be primarily subject to the implications of any particular one of the marketing area criteria.

It has been amply demonstrated that changes in milk procurement and distribution have essentially demolished the historic identification of the isolated market. One of the questions these changes have

brought about relates to the so-called regional milk market. A contention of this study is that a milk market is a milk market and that adjectives such as local, regional, or national associated with the term milk market are not clarifying but only add some semantic confusion. If, because of changing market conditions, the geographic area of a milk market grows from what may be termed local to what may be termed regional, it is only a fact that the milk market has grown. A 'local' market then is no longer a 'local' market but only a local sector of a regional market. In terms of a market representing "a closely interrelated group of buyers and sellers," the words local, regional, or national do not add to the identification.

One objection to moves to larger marketing areas, i.e., 'regional' marketing areas, relates to the potential lack of unified producer support. However, it should be recognized that this concern with unified producer support holds for any size marketing area and it would be out of context to emphasize this concern in making arguments against regional marketing areas without recognizing its comparable validity with respect to local markets.

A second objection to regional marketing areas argues that increased coordination and integration of provisions among separate orders accomplishes many of the same purposes as market area consolidation and, at the same time, permits greater flexibility and effectiveness. A specific coordination-integration recommendation will be made subsequently. However, the significant point here is that when, for example, two separate order markets fit the definition of a single economic market, it would be an evasion of marketing area policy to continue the order as separate markets, even with well-coordinated provisions. Therefore, when two or more order markets answer to the criteria of a single marketing area, a move to the larger marketing area takes a clear priority over moves to better coordinate provisions in separate orders.

In a discussion of marketing area growth, the question is eventually raised as to where one finally draws the line in declaring what the maximum size of a market can be. For example, how does one ultimately avoid defining a national marketing area? The answer to these types of questions is simply and pragmatically that marketing conditions should dictate what size marketing area will best serve the regulatory objectives. If marketing conditions describe a market which is limited or local in size, then the marketing area should be defined as such. If marketing conditions describe a market which is more expansive or regional in size, then the marketing area definition should be accommodated to that description. The question regarding a national marketing area is academic at this time because the technology and economics of fluid milk marketing do not permit such commerce. But as there is no rational ideological base for maintaining a local marketing order in a regional economic market, neither is there such a base for maintaining a regional marketing order if a national economic market in fluid milk should actually evolve. Of course, this also recognizes that there is no logical basis for defining regional marketing areas if local marketing conditions continue to prevail.

Apart from specific market considerations, two areas of policy recommend themselves for explicit recognition in the Federal milk marketing order program. These are:

1. The Dairy Division, on the basis of evidence, should have and use the additional option of recommending decisions that a part of a marketing area can be transferred to another Federal order market if changing marketing conditions indicate that the prior marketing area decision is no longer appropriate. The rationale for such an option has been developed in some detail within this report. The currently utilized alternatives of: (1) adding unregulated area to the marketing area and/or (2) consolidating with one or more other Federal order markets are too limiting in some cases as regards marketing area policy. Because of changing marketing conditions, market area decisions made in the past cannot be viewed as sacred. As changes in market area are made to fit present conditions, there must be enough policy flexibility to not only add unregulated areas or recommend market consolidation but also to reassign portions of a market area to other market orders when public hearing evidence supports such a decision.
2. Further integration and coordination of various provisions among the Federal order markets is recommended. Such action would be desirable, both among markets as presently constituted and among 'regional' markets as they might be developed. Much coordination and improved price alignment has been accomplished in recent years. However, illogical differences in Class I prices and producer prices continue to be significant problems. While market consolidations can resolve some of these problems, there will continue to be a particular need to review and adjust the following differ-

ences in pricing provisions and their effects among markets:

a. Differences in seasonal incentive plans among markets.

b. Differences in Class I prices which have been complicated by the complex of Class I differentials, local supply-demand adjustor schedules, and various standard utilization percentages among the several markets. This factor only holds as an important one if supply-demand adjustors continue to be utilized as they are at present.

It has been the rationale in the past that many of these differences in provisions were due to the 'local' nature of problems in the 'local' markets. But with no such local markets existing in the scope of this 12-market study, it is clear that some reform is needed to eliminate local provisions which aggravate regional problems.

To the extent that the Federal order program continues to utilize supply-demand adjustors in the future, the entire substance of these adjustors (price schedule, standard utilization percentage, and calculation period) should be uniform and based on the regional market. In addition, coordination of such provisions will be required as between regional markets. At the present time, the Great Lakes Milk Marketing Federation is involved in establishing higher than Federal order Class I prices. One of the main considerations in their price-making is to align Class I prices among markets on a basis which better reflects regional marketing conditions and Class I price alignment and which departs somewhat from the Federal order Class I price relationships which have continued to be heavily influenced by local conditions. Adjustments in Federal order markets and pricing can and should also be reflective of this new marketing environment.

As for the 12 markets involved in this study, there are some obvious and some less obvious market consolidations and adjustments in marketing area which appear to stand out as useful alternatives to pursue. It should be noted that there was sufficient marketing evidence to build almost any kind of a case one might want to as far as market consolidations are concerned. In the field interviewing, managers of the milk marketing cooperatives involved were quizzed closely on their reactions to alternative types of marketing arrangements. The following suggestions in some cases support and in some cases override the opinions of individual managers. More basically, the abundance of marketing evidence provided some relatively clear directions on which to make recommendations. Finally, on the basis of all available information, these suggested directions are judged to be realistic enough to achieve practical consummation.

Separate suggestions are made with respect to Federal order marketing area definitions for the 12 markets. The rationale for each suggestion is not spelled out as a part of the recommendation. However, the text of this report includes sufficient marketing area evidence to provide a substantial supporting base for each of the directions indicated. Each suggestion is based upon a simultaneous consideration of the several marketing area criteria as applied to an individual market in relation to markets with which it might consolidate.

- The Northeastern Ohio, Youngstown-Warren, and Wheeling Federal order markets consolidated and became a part of the Eastern Ohio-Western Pennsylvania Federal order market as of July 1, 1968. The evidence gathered in this study strongly endorses the consolidation of these three markets. Because of this recent move and because marketing evidence does not suggest immediate further adjustments, no additional marketing area recommendation is made *directly* with respect to the Eastern Ohio-Western Pennsylvania marketing area.
- The Cincinnati, Miami Valley, and Columbus Federal order markets should be immediately consolidated as a single Federal order market. Nonregulated areas adjacent to these three current marketing areas should also be defined in the new marketing area as evidence indicates.
- One of two alternative approaches should be pursued in regard to changes in the Tri-State Federal order market.

  a. As a first priority, the Tri-State market should be analyzed in terms of reassigning component parts of the marketing area to different Federal order markets, with the dissolution of the Tri-State market as such being part of the outcome. Such analysis may indicate that the present marketing area of the Tri-State market does not meet the standards for marketing area delineation as well as alternative marketing area arrangements might effect. If that is the case, present parts of the Tri-State marketing area should be assigned to the Appalachian, Louisville-Lexington-Evansville, Northeastern Ohio-Western Pennsylvania, and/or the Columbus-Miami Valley-Cincinnati complex as marketing area evidence indicates.

  b. As a second priority, the Tri-State Federal order market should be consolidated with the Cincinnati, Miami Valley, and Columbus markets. While the second and lower priority alternative would be accomplish-

ed much more simply administratively than the former, it would probably not lead to the rather well-defined differences among markets that reassignment of parts of the Tri-State market would permit.

- Marketing relationships with the Louisville-Lexington-Evansville market were generally quite limited and, except as the Tri-State recommendation affects it, no marketing area recommendation is directed to it.

- The Indianapolis and Ft. Wayne Federal order markets each have relatively extensive marketing relationships with some of the markets to the east of them (in Ohio), as the evidence has shown. However, because of various reasons, including a general expression of opposition by some of the major cooperatives involved and concurrent efforts within Indiana directed at possible consolidation of the Federal order markets within Indiana, it was concluded that no practical purpose could be served by expressing marketing area recommendations for either the Indianapolis or Ft. Wayne markets.

- The Northwestern Ohio Federal order illustrates another situation where market areas adjacent to it should possibly absorb component parts of the Northwestern Ohio marketing area. However, it is recommended that the Northwestern Ohio marketing area be undisturbed for a period of up to 2 years, until marketing conditions and relationships become further crystallized. At that time, the marketing situation should be carefully reviewed in terms of the relationships with the Southern Michigan, Eastern Ohio-Western Pennsylvania, and Columbus-Miami Valley-Cincinnati Federal order markets. The direction of current marketing activities in Northwestern Ohio suggests that ultimate reassignment of the Northwestern Ohio marketing area to these other three market complexes may be the best answer to the several marketing area criteria.

- The Southern Michigan Federal order market already encompasses a large geographic area in lower Michigan. The sheer size of the marketing area, together with the boundaries placed upon it by Lakes Michigan and Huron, limits the marketing relationships which the Southern Michigan market has with other markets. However, on the basis of the marketing evidence, a consolidation of the Upstate Michigan Federal order market with Southern Michigan recommends itself. In addition, it is clear that any potential reassignment of portions of the Northwestern Ohio market would directly involve the Southern Michigan Federal order market. As such, the Southern Michigan market should be sensitive to this possibility.

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